Hunan City University

ASIIN Accreditation Self-Assessment Report

Major in Civil Engineering

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1. Overview of the Major

Table 1-1 Overview of the Major

Major (Chinese)	Major in Civil Engineering
Major (English)	Civil Engineering
Degree	Bachelor's
Program Duration	Four years
ECTS Credits	232
Study Mode	Full-time
Website	https://www.hncu.edu.cn/
First Enrollment Date for the Major	September 1, 2002
Semester Start Date	Fall Admission
Planned Enrollment Number	280
Tuition Fee	5,900 RMB/year
College	College of Civil Engineering
College Website	https://tmgc.hncu.edu.cn/
Major Leader	Professor Cao Guohui
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2. Training Program Content and Implementation

The Civil Engineering program at Hunan City University (HNCU) originated from the Industrial and Civil Engineering program of the former Hunan City Construction College (formerly a university directly under the Hunan Provincial Construction Committee), which was established in 1984 and approved as one of the first key construction programs by Hunan Province in 1995. The Civil Engineering program began undergraduate admissions in 2002 and was approved as a first-class undergraduate program construction point in Hunan Province in 2019, and as a national first-class undergraduate program construction point in 2020. This program closely aligns with China's rapidly developing civil engineering industry. The educational approach combines theory with practice, training high-quality professionals who possess a broad foundational knowledge, strong professional expertise, and the ability to apply their knowledge and skills to solve basic engineering problems. These graduates are "engineering-oriented, application-focused, and internationally-minded" talents. Graduates demonstrate strong comprehensive innovation awareness, independent working ability, and teamwork spirit in the field of engineering science and technology. They also exhibit a high cultural level, good professional ethics, a strong sense of social responsibility, an international perspective, and excellent social competitiveness and creativity. They are equipped to meet the demands of civil engineering-related industries and sectors, fulfilling the requirements for internationally recognized engineering qualifications and professional engineer credentials.

2.1 Training Objectives

This program is based on the regional economic and social development needs, aiming at the construction of new-type urbanization and rural revitalization. It trains professionals who meet the national infrastructure development needs, with solid engineering practice skills, autonomous learning ability, cooperative communication skills, and innovation capabilities. These professionals are prepared to work in construction, management, and design roles in areas such as road and bridge engineering, building engineering, and urban rail transit engineering, possessing strong professional ethics and social responsibility.

The knowledge, skills, and abilities of the program's graduates are designed to achieve the following objectives:

Training Objective 1: Master basic knowledge in mathematics, natural sciences, and information technology to lay a solid foundation for subsequent coursework, applying the learned knowledge to solve engineering problems.

Training Objective 2: Master fundamental knowledge in civil engineering and use this knowledge to identify and analyze complex engineering problems, building a solid foundation for further solving complex civil engineering issues.

Training Objective 3: Master professional knowledge in civil engineering, capable of investigating, designing, and analyzing complex engineering problems in related fields, and proposing solutions that meet the specific needs of complex civil engineering challenges.

Training Objective 4: Master cutting-edge knowledge and skills in civil engineering, able to track the development trends in the field and pursue further self-development.

Training Objective 5: Master cross-cultural and international cooperation and communication skills that are adaptable to social development and globalization.

Training Objective 6: Understand China's current social model and norms, demonstrating good social behavior, teamwork spirit, and humanistic care. Develop comprehensively in moral, intellectual, physical, and psychological aspects.

The training objectives of the Civil Engineering program can be viewed on the English homepage of the College of Civil Engineering (https://tmgc.hncu.edu.cn/ASIINrz/Civil_Engineering/pymb_Objectives.htm).

2.2 Learning Outcomes of the Program

2.2.1 Course Learning Outcomes (Knowledge, Skills, and Abilities)

(1) Basic Scientific Literacy and Engineering Abilities

- Ability to understand and apply mathematics and natural sciences to solve practical engineering problems;
- Ability to understand and participate in general industry processes, meeting potential job and technical requirements;
- Ability to track the development trends of modern science and technology and their application prospects.

(2) Civil Engineering Professional Knowledge and Abilities

- Ability to acquire and apply civil engineering professional knowledge;
- Possession of strong professional practice skills and vocational abilities;
- Ability for further study, advanced degree pursuit, and research.

(3) International Communication Ability

- Possession of sufficient English language knowledge to communicate with international peers;
- Ability to work and collaborate in foreign countries or multinational companies；supported by a solid foreign language and cross-cultural background.

(4) Computer and Information Application Ability

- Ability to use computer software and networks;
- Familiarity with common methods of literature, information, and data retrieval, with the ability to acquire and utilize information (including literature);
- Ability to integrate professional knowledge with computers, such as computer-aided design and simulation.

(5) Engineering and Professional Practice Ability

- Ability to design solutions to complex engineering problems in the field of civil engineering;
- Ability to design buildings, bridges, and rail systems that meet specific needs, incorporating innovation in the design process and considering social, health, safety, legal, cultural, and environmental factors;
- Ability to design, construct, and operate building, road, bridge, and rail engineering systems according to regulations, as well as to analyze and evaluate practical engineering problems and provide valuable solutions.

(6) Teamwork and Management Ability

- Good mental health and personal integrity;
- Strong legal awareness and social responsibility;
- Teamwork spirit and some management abilities;
- Ability to thrive in competitive environments and challenging work conditions.

2.2.2 Evaluation and Requirements

(1) Professional Assessment

Hunan City University successfully completed the Ministry of Education's undergraduate teaching evaluation and educational assessment in 2018 and 2024 with high quality. Civil Engineering is one of the most distinctive undergraduate programs at Hunan City University. Based on the OBE (Outcome-Based Education) engineering education concept, the talent cultivation plan was comprehensively revised in 2019, and the application for engineering education accreditation from the Ministry of Education was initiated.

(2) Employment Market Demand

Graduates of this program are widely accepted in the employment market. They possess strong practical abilities, solid foundational professional knowledge, adaptability, innovation awareness, and high comprehensive skills.

The Civil Engineering program is offered in three sub-disciplines, with a broad employment scope. The "Building Engineering" direction emphasizes cultivating skills in research, design, construction, operation, and management in the building sector. The employment market mainly includes areas such as real estate development, construction, and architectural design. The "Road and Bridge Engineering" direction focuses on cultivating skills in research, design, construction, operation, and management in the road and bridge fields. The employment market primarily includes road and bridge design, construction, installation, or operation management sectors. The "Urban Rail Transit Engineering" direction focuses on developing abilities in the design, construction, installation, and operation of urban subways, light rail, and conventional rail systems. Employment is primarily directed toward design, construction, and operation of transportation infrastructure like subways, high-speed rail, and light rail.

In the past three years, the employment rate of graduates from this program (including those continuing studies domestically and internationally) has been over 90%.

(3) Graduate Survey

The results from the survey of program graduates indicate that the curriculum is well-structured, closely aligned with the demands of the employment market, and that graduates adapt well after completing their studies, with academic performance fully meeting the expected goals.

2.3 Learning Outcomes of Each Course Module

2.3.1 Curriculum Plan Modules

According to the course arrangement, the entire curriculum system is divided into 10 ability areas: Mathematics and Physics; Information Technology; Engineering Fundamentals; Professional Foundations; Professional Application; Professional Practice; Professional Development; Integrated Application; Foreign Language; Humanities and Social Sciences.

(1) Mathematics and Physics courses equip students with basic knowledge in mathematics, physics, and other natural sciences, deepening their understanding of natural sciences and improving their scientific literacy to solve practical problems in science and technology applications, thus laying a solid foundation for further professional study.

(2) Information Technology courses enable students to master the fundamentals of computer science and information technology, applying computer and information technology tools to effectively solve practical problems in the field of science and technology, providing a solid foundation for future research.

(3) Engineering Fundamentals courses allow students to master basic knowledge in areas such as engineering mechanics, engineering materials, measurement, and engineering drawing, laying a solid foundation for learning engineering application courses.

(4) Professional Foundation courses enable students to master fundamental knowledge related to civil engineering, including principles of concrete structures, principles of steel structures, engineering project management, and civil engineering construction, laying the foundation for subsequent theoretical and practical courses in civil engineering.

(5) Professional application courses enable students to master specialized knowledge and skills related to civil engineering, particularly in the areas of building engineering, road and bridge engineering, and urban rail transit engineering, thereby enabling them to analyze and solve complex engineering problems in the civil engineering field.

(6) Professional practice courses include engineering fundamentals course design, comprehensive professional experiments, comprehensive professional course design, innovation and entrepreneurship project training, and internships. These courses primarily cultivate students' professional experimental skills, engineering application concepts, and innovative practice skills. The goal is to allow students to understand the entire process of design, construction, management, and maintenance of structures such as bridges, buildings, and rail systems in practical civil engineering, further validating and consolidating theoretical knowledge, and deepening the understanding of applied knowledge. During the practice process, emphasis is placed on cultivating students' ability to comprehensively apply professional knowledge to analyze and solve real-world complex engineering problems.

(7) Professional development courses enable students to master cutting-edge knowledge and skills in the field of civil engineering, tracking the development trends in related areas such as green building and intelligent construction. Through these courses, students complete further self-development.

(8) Integrated application courses include production internships, graduation internships, and graduation design projects. The aim is to allow students to combine knowledge, skills, and abilities to execute and complete tasks, propose solutions, and

solve practical problems. Each student is required to independently complete tasks under the guidance of a mentor and successfully defend their work.

(9) Foreign language courses aim to cultivate students' mastery of a foreign language, enabling them to read professional literature and communicate in a foreign language, as well as develop the ability for cross-cultural and international cooperation and communication.

(10) Humanities and social science general education courses aim to develop students' cultural literacy, social skills, and teamwork spirit. They enable students to grasp the basics of humanities and social sciences, possess good humanistic qualities, and assume professional, social, and environmental responsibilities. Students are trained and exercised through various practical and team activities, enabling them to communicate effectively, adapt to different environments, and integrate into society.

2.3.2 Objective Matrix

Table 2-1 Civil Engineering Program Objective Matrix

Training Objective	Expected Learning Outcomes of the Curriculum (Knowledge/Skills/Abilities)	Course Modules/Courses

1. Master foundational knowledge in mathematics, natural sciences, and information technology to establish a solid foundation for subsequent coursework and apply this knowledge to solve engineering problems.	**Knowledge**: Master the fundamentals of mathematics, natural sciences, information technology, and computer basics. **Skills**: Be able to apply mathematical and natural science language to formally present complex civil engineering problems. **Abilities**: Be able to observe, analyze, and solve technical problems using mathematical and informational viewpoints and methods of thinking. Based on the characteristics of mathematics and information technology, conduct continuous analysis, synthesis, computation, judgment, and reasoning on engineering phenomena, possessing the fundamental abilities to solve engineering problems.	**Mathematics and Physics:** Advanced Mathematics A (1) Advanced Mathematics A (2) Linear Algebra A Probability and Mathematical Statistics A University Physics (1) University Physics (2) General Chemistry A Mathematical Modeling **Information Technology:** Computer Fundamentals for College Students Computer Languages

2. Master the fundamental knowledge of civil engineering, apply the learned knowledge to identify and analyze complex civil engineering problems, and lay a solid foundation for further solving complex civil engineering problems.	**Knowledge**: Master fundamental engineering knowledge such as engineering mechanics, engineering materials, as well as specialized knowledge in steel structures and concrete structures. **Skills**: Apply basic principles of engineering science to identify complex civil engineering problems, analyze these problems, and determine the key aspects for solving the issues. **Abilities**: Use engineering principles to analyze the influencing factors in the problem-solving process from multiple angles, effectively express the analysis process and conclusions, and use them to guide the formulation of solutions.	**Engineering Fundamentals:** Descriptive Geometry Civil Engineering Drawing (including CAD) Theoretical Mechanics Mechanics of Materials Structural Mechanics (1) Structural Mechanics (2) Soil Mechanics Fluid Mechanics Civil Engineering Materials Engineering Surveying B Engineering Geology Electrical and Electronics Practical Training A Metalworking Practical Training A Engineering Geology Orientation Internship Surveying Internship Mechanics of Materials Experiment Building Materials Experiment Soil Mechanics Experiment **Professional Foundation Courses:** Foundation Engineering Principles of Concrete Structure Design Engineering Economics and Construction Regulations Introduction to Civil Engineering Basic Principles of Steel Structures Introduction to Seismic Engineering Orientation Internship

<table>
<tr>
<td rowspan="2">3. Master professional knowledge in civil engineering, enabling the investigation, design, and analysis of complex engineering problems in related fields, and the development of solutions to meet the specific needs of complex civil engineering issues.</td>
<td rowspan="2">Knowledge: Master specialized knowledge related to building, road and bridge, and rail engineering design, construction, management, and other aspects in civil engineering.
Skills: Able to complete the design of structures and components (nodes) that meet specific civil engineering needs, and able to develop construction plans for specific complex engineering problems.
Familiar with modern tools related to civil engineering, understanding their limitations, and possessing the ability to select and use appropriate tools.
Abilities: In design and construction planning, able to fully consider constraints such as social, health, safety, legal, cultural, and environmental factors.
Able to use modern tools to model and calculate complex civil engineering problems, and analyze the validity and limitations of the results.
Master the operation of basic software required for the development of informatization in the construction industry, and possess the ability to build and apply information models.</td>
<td colspan="3">Professional Application Courses:
Engineering Project Management
Construction Principles and Methods
Engineering Structure Load and Reliability Theory</td>
</tr>
<tr>
<td>Road and Bridge
Bridge and Culvert
Hydrology
Road Survey and Design
Subgrade and Pavement Engineering
Bridge Engineering (1)
Bridge Engineering (2)
Road and Bridge Engineering Construction Technology
Road and Bridge Engineering Budgeting
Traffic Engineering</td>
<td>Construction Engineering
High-rise Building Structures
Building Architecture
Steel Structure Design
Masonry Structures
Concrete Structure Design
Prefabricated Buildings
Building Engineering Budgeting
Building Engineering Constructio</td>
<td>Urban Rail Transit
Urban Rail Transit Network Planning and Route Design
Track Engineering
Tunnel and Underground Engineering
Railway Bridges
Urban Rail Transit Stations
Railway Subgrades
Urban Rail Transit Engineering Budgeting
Road and Railway Engineering Construction Technology</td>
</tr>
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		Professional Practice Courses: Civil Engineering Structural Testing Technology Concrete Structure Design Principles Course Design Foundation Engineering Course Design Budgeting Course Design Construction Organization Design		
		Road and Bridge	Construction	Urban Rail Transit

			Engineering	
		Road Survey and Design Course Design Subgrade and Pavement Engineering Course Design Retaining Wall Course Design Bridge Engineering Course Design	Building Architecture Course Design Ribbed Beam Floor Course Design (including Masonry) Single-story Industrial Plant Course Design Steel Structure Course Design	Urban Rail Transit Route Course Design Track Engineering Course Design Railway Bridge Course Design Tunnel and Underground Engineering Course Design
4. Possess awareness of autonomous learning and lifelong learning, with the ability to track the development trends in the related fields of the major and complete further self-development.	**Knowledge**: Master methods for tracking and learning the latest developments and knowledge in the forefront and emerging fields of civil engineering. **Skills**: Recognize the importance of lifelong learning, actively track developments in the major and related fields, and possess the ability for self-directed learning. **Abilities**: Apply acquired professional knowledge widely,	**Professional Development Courses:** Fundamentals of Innovation and Entrepreneurship Literature Search and Research Methods Basics of BIM New Technologies in Civil Engineering Civil Engineering Structural Testing Technology **Integrated Application Courses:** Production Internship Graduation Internship		

	combining it with cutting-edge developments. Possess the ability to adapt to new developments in the civil engineering industry.	Comprehensive Graduation Training
5. Master cross-cultural and international cooperation and communication skills to adapt to social development and globalization.	**Knowledge**: Master one foreign language. **Skills**: Read professional literature in English and perform mutual translation between Chinese and English. **Abilities**: Have a basic understanding of the international status of civil engineering disciplines and related industries, and possess initial communication and exchange abilities in a cross-cultural context.	**Foreign Language Courses:** College English (1) College English (2) College English Extension Courses (1) College English Extension Courses (2) College English Practice (1) College English Practice (2) Professional English

6. Understand the current social model and social norms in China, demonstrate good social behavior, teamwork spirit, and humanistic care awareness. Develop comprehensively in moral, intellectual, physical, and psychological aspects.	**Knowledge**: Master knowledge of modern Chinese history, basic principles of Marxism, military theory, etc., and engage in patriotism education, physical education, and military training. **Skills**: Understand social phenomena, stay informed about and adapt to social development, possess communication and collaboration abilities, demonstrate strong teamwork spirit, and promote physical and mental well-being and self-improvement. **Abilities**: Possess sound character and good psychological qualities. Understand China's national conditions, have humanistic and social science literacy, and social responsibility, enabling adherence to professional ethics and conduct in engineering practices, shouldering responsibilities, contributing to the nation, and serving society.	**Humanities and Social Sciences Courses:** Ethics and the Rule of Law Outline of Modern Chinese History Basic Principles of Marxism Introduction to Thought and Theoretical System of Socialism with Chinese Characteristics Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era Labor and Education Situation and Policy College Student Mental Health Education Career Development and Employment Guidance for College Students (1) Career Development and Employment Guidance for College Students (2) Military Theory for College Students University Physical Education and Health (1) University Physical Education and Health (2) University Physical Education and Health (3) University Physical Education and Health (4) Introduction to Life Sciences Introduction to Environmental Science Orientation Education and Military Training Social Practice and Volunteer Service

2.4 Employment Prospects and Practical Relevance

2.4.1 Employment Market Prospects and Positioning

This program was approved as a first-class undergraduate program construction point in Hunan Province in 2019 and as a national first-class undergraduate program construction point in 2020. To meet the demand for applied engineering talent cultivation in China and to reflect the goals of modern engineering application-focused universities, this program adheres to a model of cooperation between industry, academia, and research, with an industry demand-oriented approach. It emphasizes the coordinated development of knowledge, abilities, and quality, while enhancing the cultivation of innovation awareness and capabilities. The program emphasizes the intersection and integration of disciplines such as computer technology, engineering physics, and mechanical engineering. It constructs a teaching model that combines theoretical teaching, practical teaching, and quality education, with a professional curriculum system that has distinct characteristics, including "broad scope, solid foundation, strong practice, and innovation-driven." The program strengthens comprehensive practical skills training, forming a multi-level, open, industry-academia integrated talent development system, thereby achieving the goals of professional talent cultivation.

The Civil Engineering program is offered in three sub-disciplines, with a broad employment scope. The "Road and Bridge Engineering" direction focuses on cultivating skills in research, design, construction, operation, and management in the road and bridge fields. The employment market primarily includes road and bridge design, construction, installation, or operation management sectors. The "Building Engineering" direction emphasizes cultivating skills in research, design, construction, operation, and management in the building sector. The employment market mainly includes areas such as real estate development, construction, and architectural design. The "Urban Rail Transit Engineering" direction focuses on developing abilities in the design, construction, installation, and operation of urban subways, light rail, and conventional rail systems. Employment is primarily directed toward design, construction, and operation of transportation infrastructure like subways, high-speed rail, and light rail.

In the past three years, graduates have mainly worked in departments related to civil engineering, such as design, construction, installation, testing, technical consulting, and technical services. Employment destinations include design companies, construction and installation engineering companies, technical consulting agencies, new energy technology companies, and others. The employment rate for civil engineering

graduates remains high, and the employment situation for the past three years is shown in Table 2-2. A graduate tracking system has been established for comprehensive analysis of graduate outcomes. The analysis results show that graduates are spread across the country and have high confidence and recognition in the industries they are involved in. Employers have given positive evaluations of the graduates' training quality. Over the past three years, more than 1,000 graduates have been provided to relevant fields. The majority of graduates have become technical backbones and management personnel in these companies. The questionnaire survey of graduates and employers is shown in **Appendix A-1**.

Table 2-2 Employment Situation of Civil Engineering Graduates in the Last Three Years (Unit: %)

Graduation Year	2022	2023	2024
Number of people	366	380	307
Employment rate (%)	91	95	89

Employers include China State Construction Railway Investment Engineering Group Co., Ltd, CSCEC 4 Civil Engineering Co., Ltd, China State Construction Railway Investment Engineering Group Co., Ltd, The Civil Engineering Group Corporation of China Construction Second Engineering Bureau Ltd., China State Construction Engineering Corporation, China Railway Group Limited, China Railway No.5 Engineering Group Co., Ltd., CCCC Fourth Highway Engineering Co., Ltd, China National Nuclear Corporation, Broad Homes, The 23rd Metallurgical Construction Group Co., Ltd. of Minmetals, and over 100 large enterprises including Hunan Construction Engineering Group, Sinohydro Engineering Bureau 8, Hunan Road and Bridge Company, among others.

2.4.2 Practical Abilities

(1) Laboratory

Laboratory skills are developed based on the National Experimental Teaching Demonstration Center for Civil Engineering and the Engineering Training Center. Laboratory projects are divided into basic subject experiments, in-class professional experiments, and innovative open experiments. Among these, basic subject experiments and in-class professional experiments are conducted at the National Experimental Teaching Demonstration Center for Civil Engineering, while innovative open experiments are conducted at the Engineering Training Center. Currently, there are 6 in-class laboratory courses, including 5 professional laboratory courses and 1 basic subject

laboratory course, with a total of 40 experimental projects. Additionally, several innovative open experiments are offered based on student interests and faculty research directions. The laboratory courses enhance students' understanding of theoretical courses and cultivate their innovation, data analysis, and practical skills.

(2) Internships and Practical Training

Internships and practical training include orientation internships, engineering geology internships, surveying internships, construction internships, graduation internships, electrical and electronic training, and metalworking training. Electrical and electronic training, as well as metalworking training, are guided by teachers from the School of Innovation and Entrepreneurship. Orientation internships, engineering geology internships, and surveying internships are guided by faculty within the university and completed in Hunan Province, with evaluations provided by the supervising teachers. Construction internships and graduation internships are guided by both university instructors and mentors from enterprises nationwide, with internship reports completed and evaluated by the enterprise mentors and off-campus instructors. The internship syllabus and related requirements can be found in **Appendix A-2**.

(3) Course Design and Graduation Design

Course design includes Concrete Structure Design Principles, Foundation Engineering, Budgeting Course Design, Construction Organization Course Design, Building Architecture Course Design, Ribbed Beam Floor Course Design (including Masonry), Single-story Industrial Plant Course Design, Steel Structure Course Design, Road Survey Design, Subgrade and Pavement Engineering Course Design, Retaining Wall Course Design, Bridge Engineering Course Design, Urban Rail Transit Route Course Design, Track Engineering Course Design, Railway Bridge Course Design, Tunnel and Underground Engineering Course Design. The course design syllabus and related requirements can be found in **Appendix A-3**.

The graduation design of the Civil Engineering program stems from real engineering needs and is selected from faculty research projects or engineering application projects at practical bases. The purpose is to assess students' ability to apply the knowledge they have learned comprehensively. The entire process emphasizes design and integrated ability training, focusing on cultivating students' engineering awareness, independent problem-solving skills, and teamwork spirit, particularly their innovation awareness and abilities. New ideas, improvements, and discoveries are encouraged. In addition, external mentors with engineering and practical backgrounds are invited to participate in guidance, implementing the "dual mentorship system" of university and industry for

undergraduate graduation project supervision. The entire graduation project process includes multiple stages such as topic selection, mid-term review, defense qualification check, guidance and grading by professors, defense, selection of top defenses, and the university's outstanding graduation design display. This process aims to strictly control the content and quality of the bachelor's degree graduation project, ensuring the quality of the final project. The graduation project outline and related requirements can be found in **Appendix A-4**.

(4) Innovation and Entrepreneurship Practice

Students actively participate in innovation and entrepreneurship activities, with a 100% participation rate in undergraduate innovation and entrepreneurship projects. The Civil Engineering program, leveraging the National Experimental Teaching Demonstration Center for Civil Engineering, actively builds communication platforms for undergraduate students and professional faculty. Through student innovation studios, the Civil Engineering College's structural design studio, and the Civil Engineering College's Technology Association, the program promotes various student innovation, entrepreneurship, and academic competition projects, leading to a series of high-level outcomes. The list of student innovation and entrepreneurship projects can be found in **Appendix A-5**.

In recent years, students have participated in academic competitions and won multiple national and provincial-level awards. The award details can be found in **Appendix A-6**.

2.5 Admission Requirements

2.5.1 Admission Criteria

According to the *Education Law of the People's Republic of China*, the *Higher Education Law of the People's Republic of China*, and other relevant laws and regulations from the Ministry of Education, all individuals entering Hunan City University for undergraduate study and pursuing a bachelor's degree must hold a high school diploma or an equivalent qualification and must participate in the National College Entrance Examination (Gaokao). Those who meet the following conditions are eligible to apply: 1) Comply with the Constitution and laws of the People's Republic of China; 2) Have graduated from high school or possess an equivalent qualification; 3) Be in good physical health.

2.5.2 Admission Process

University admissions in China are determined by each province and municipality based on the number of applicants and exam scores. Admissions are divided into the first, second, and third batches, with candidates ranked by scores from highest to lowest.

Admission to the Civil Engineering program at Hunan City University is in the first batch, with Language and Literature, Mathematics, Foreign Language, Physics, and Chemistry as mandatory subjects for the Gaokao.

During the admission phase, the admissions department at Hunan City University evaluates candidates comprehensively based on predetermined admission plans, primarily considering exam scores for selection. A typical admission process includes: file submission, file review, pre-admission, admission checks, and issuance of admission letters.

Upon entering Hunan City University, new students are required to provide their admission letter and identification documents, then follow the instructions in the registration notice to register at the appropriate department. A typical enrollment process includes: confirming registration, paying tuition, registering for academic status, and collecting study materials and supplies.

2.5.3 Admission Transparency

The admission and enrollment process for freshmen at Hunan City University strictly follows the relevant procedural documents and is highly transparent. According to the *Education Law of the People's Republic of China*, the admission process for regular higher education institutions in China follows a "school responsibility, admission office supervision" system. Here, the "admission office" refers to the provincial-level admission office rather than HNCU's own admission office. This means that for candidates who meet the requirements of political and moral assessment, comply with laws and regulations, pass the physical examination, achieve the required score on the national entrance examination, and meet HNCU's file transfer criteria, whether they are admitted and the program to which they are admitted is determined by HNCU itself.

HNCU has issued and implemented documents such as the *2024 Hunan City University Undergraduate Admissions Regulations* (see **Appendix A-7**), *Hunan City University Online Admission Site Management Regulations* (see **Appendix A-8**), and *Guidelines for Physical Examination in University Admissions* (see **Appendix A-9**), to standardize the admission process and improve publicity channels.

The university is responsible for providing explanations to unadmitted candidates and handling other unresolved issues. The provincial-level admission offices organize and implement the submission of qualified candidates' electronic files to the universities and supervise the universities’ compliance with national admission policies, adjustments to admission plans, and enforcement of those plans, correcting any violations of national admission policies and regulations.

2.6 Training Plan

The training plan is the basic basis for organizing various teaching activities and is a foundational document for HNCU's management, monitoring, and evaluation of teaching quality. To verify the quality of the training plan, standardize HNCU's training plan development process, ensure the achievement of talent cultivation goals, and better optimize and improve the plan, HNCU has formulated the *Implementation method of rationality evaluation of talent training program in Hunan City University* (see **Appendix A-10**), which specify the development and revision of the training plan. The training plan for this program is jointly drafted by the college, department, and industry and enterprise experts, reviewed by the college's teaching advisory committee, and submitted for approval by the university (the list of the teaching advisory committee is provided in **Appendix A-11**).

The talent training plan for the Civil Engineering program is detailed in **Appendix A-12**.

3. Degree Courses: Structure, Methods, and Implementation

3.1 Structure and Modules

3.1.1 Structure

The undergraduate training plan for this program is a four-year system. Overall, the course system is divided into ten ability domains, with the learning content in each domain being interconnected in chronological order. Regarding credit and the distribution of hours across the various ability domains, language courses and general foundational courses are scheduled in the first to fourth semesters, including English, ideological and political education, physical education, etc., to familiarize students with relevant English, humanities, and law, thereby improving their cross-cultural communication skills and humanistic literacy.

Mathematics, physics, and information technology courses are scheduled in the first to fourth semesters, allowing students to become familiar with basic knowledge and skills, providing a foundation for studying subsequent professional courses. For example, advanced mathematics is scheduled in the 1st-2nd semesters, linear algebra and probability theory and mathematical statistics are scheduled in the 3rd-4th semesters; university physics is scheduled in the 2nd-3rd semesters; information technology courses are scheduled in the 1st-3rd semesters, to ensure that students can master the knowledge and skills of computer science and information technology.

Engineering fundamentals courses are scheduled in the 1st-5th semesters, including courses related to engineering knowledge and skills, such as descriptive geometry, civil engineering drawing (including CAD), theoretical mechanics, mechanics of materials, structural mechanics, civil engineering materials, etc., laying the foundation for subsequent engineering applications and professional courses.

Engineering application courses are scheduled in the 5th-7th semesters, including the specialized courses of this program. These courses are crucial in the entire curriculum system, as they deepen and expand the professional knowledge and application in the field of civil engineering.

Professional practice and integrated application courses are primarily scheduled in the 4th-8th semesters. Most of the topics in the integrated application courses come from real engineering projects of enterprises. Professional practice and integrated application courses help students accumulate a substantial amount of practical engineering experience, enhancing their employment competitiveness. According to the course arrangement, students will ultimately earn 232 credits after completing the 8-semester program.

3.1.2 Modules

According to the training objectives, all courses cover ten ability areas, with expected learning outcomes and corresponding courses as follows:

Mathematics and Physics Courses

Expected learning outcomes: Master basic knowledge and principles of mathematics, physics, and other natural sciences, deepen the understanding of natural sciences, and improve scientific literacy in problem-solving, laying the foundation for subsequent engineering fundamentals courses.

Basic requirements: Able to apply the learned basic theories of natural sciences to analyze scientific problems in engineering practice.

Corresponding courses: Advanced Mathematics, Linear Algebra A, Probability Theory and Mathematical Statistics A, University Physics, General Chemistry A, Mathematical Modeling.

Information Technology Courses

Expected learning outcomes: Master basic knowledge of information technology and computer science, and be able to apply computer and information technology tools to effectively solve practical problems in the field of science and technology, laying the foundation for future learning.

Basic requirements: Able to use computer and information technology methods to solve practical problems in scientific and technological fields related to the learned major.

Corresponding courses: Computer Fundamentals for College Students, Computer Languages.

Engineering Fundamentals Courses

Expected learning outcomes: Master a broad range of engineering fundamental knowledge, laying a solid foundation for subsequent engineering application courses.

Basic requirements: Master engineering mechanics, engineering materials, and other professional fundamental knowledge; be able to apply basic principles of engineering science to identify complex engineering problems in civil engineering, analyze these problems, and determine the key aspects for solving them; be able to use engineering principles to analyze factors influencing the problem-solving process from multiple perspectives, effectively express the analysis process and conclusions, and use them to guide the formulation of solutions.

Corresponding courses: Descriptive Geometry, Civil Engineering Drawing (including CAD), Theoretical Mechanics, Mechanics of Materials, Structural Mechanics, Soil Mechanics, Fluid Mechanics, Civil Engineering Materials, Engineering Surveying B, Engineering Geology, Electrical and Electronic Training A, Metalworking Training A, Engineering Geology Orientation Internship, Surveying Internship.

Professional Foundation Courses

Expected learning outcomes: Master professional knowledge and skills in civil engineering and related fields, enabling the analysis and solution of complex engineering problems.

Basic requirements: Master engineering fundamentals such as foundation engineering, principles of concrete structure design, and basic principles of steel structures; be able to apply basic engineering science principles to identify complex civil engineering problems, analyze these problems, and determine the key aspects for problem-solving; be capable of using engineering principles to analyze factors influencing the problem-solving process through various approaches, and effectively communicate the analysis process and conclusions to guide the formulation of solutions.

Corresponding courses:

Foundation Engineering, Principles of Concrete Structure Design, Engineering Economics and Construction Regulations, Introduction to Civil Engineering, Basic Principles of Steel Structures, Introduction to Seismic Engineering, Orientation Internship.

Professional Application Courses

Expected learning outcomes: Master professional knowledge in civil engineering, including areas such as building, road and bridge, and rail engineering design, construction, and management.

Basic requirements: Able to complete the design of structures and components (nodes) that meet specific civil engineering needs, and develop construction plans for specific complex engineering problems. Familiar with modern tools related to civil engineering, understanding their limitations, and possessing the ability to select and use appropriate tools. In design and construction planning, able to fully consider constraints such as social, health, safety, legal, cultural, and environmental factors. Able to use modern tools to model and calculate complex civil engineering problems, and analyze the validity and limitations of the results. Master the operation of basic software required for the development of informatization in the construction industry, and possess the ability to build and apply information models.

Corresponding courses:

Engineering Project Management, Construction Principles and Methods, Engineering Structure Load and Reliability Theory.

Road and Bridge Direction: Bridge and Culvert Hydrology, Road Survey and Design, Subgrade and Pavement Engineering, Bridge Engineering (1), Bridge Engineering (2), Road and Bridge Engineering Construction Technology, Road and Bridge Engineering Budgeting, Traffic Engineering.

Building Engineering Direction: High-rise Building Structures, Building Architecture, Steel Structure Design, Masonry Structures, Concrete Structure Design, Prefabricated Buildings, Building Engineering Budgeting, Building Engineering Construction.

Urban Rail Transit Direction: Urban Rail Transit Network Planning and Route Design, Track Engineering, Tunnel and Underground Engineering, Railway Bridges, Urban Rail Transit Stations, Railway Subgrades, Urban Rail Engineering Budgeting, Road and Railway Engineering Construction Technology.

Professional Practice Courses

Expected learning outcomes: Master professional knowledge in civil engineering, including areas such as building, road and bridge, and rail engineering design, construction, management, and experimentation.

Basic requirements: Able to complete the design of structures and components (nodes) that meet specific civil engineering needs, and develop construction plans for specific complex engineering problems. Familiar with modern tools related to civil engineering, understanding their limitations, and possessing the ability to select and use appropriate

tools. In design and construction planning, able to fully consider constraints such as social, health, safety, legal, cultural, and environmental factors. Able to use modern tools to model and calculate complex civil engineering problems, and analyze the validity and limitations of the results. Master the operation of basic software required for the development of informatization in the construction industry, and possess the ability to build and apply information models. The goal of laboratory courses is to cultivate students' hands-on practical ability, problem analysis and solving skills, and a scientifically rigorous experimental attitude, while also fostering teamwork skills.

Corresponding courses:

Road and Bridge Direction: Road Survey and Design Course Design, Subgrade and Pavement Engineering Course Design, Retaining Wall Course Design, Bridge Engineering Course Design, Mechanics of Materials Experiment, Building Materials Experiment, Soil Mechanics Experiment, and Civil Engineering Structural Testing Technology.

Building Engineering Direction: Architectural Design Course, Ribbed Beam Floor Course Design (including Masonry), Single-story Industrial Plant Course Design, Steel Structure Course Design, Mechanics of Materials Experiment, Building Materials Experiment, Soil Mechanics Experiment, and Civil Engineering Structural Testing Techniques.

Urban Rail Transit Direction: Urban Rail Transit Line Course Design, Track Engineering Course Design, Railway Bridge Course Design, Tunnel and Underground Engineering Course Design, Mechanics of Materials Experiment, Building Materials Experiment, Soil Mechanics Experiment, and Civil Engineering Structural Testing Techniques.

Professional Development Courses

Expected Learning Outcomes: Master the methods for tracking and learning the dynamic developments and knowledge in the forefront and emerging fields of civil engineering.

Basic Requirements: Recognize the importance of lifelong learning, actively track developments in the major and related fields, and possess the ability for self-directed learning. Be able to apply the acquired professional knowledge widely, combining it with cutting-edge developments. Possess the ability to adapt to new developments in the civil engineering industry.

Corresponding Courses: Fundamentals of Innovation and Entrepreneurship, Literature Search and Research Methods, Basics of BIM, New Technologies in Civil Engineering, Civil Engineering Structural Testing Technologies.

Integrated Application Courses

Expected Learning Outcomes: Master the methods for tracking and learning the dynamic developments and knowledge in the forefront and emerging fields of civil engineering.

Basic Requirements: Recognize the importance of lifelong learning, actively track developments in the major and related fields, and possess the ability for self-directed learning. Be able to apply the acquired professional knowledge widely, combining it with cutting-edge developments. Possess the ability to adapt to new developments in the civil engineering industry.

Corresponding Courses: Production Internship, Graduation Internship, Comprehensive Graduation Training.

Foreign Language Courses

Expected Learning Outcomes: Possess cross-cultural communication skills necessary for international cooperation, better adapting to social development and globalization.

Basic Requirements: Be able to read professional literature in English and perform mutual translation between Chinese and English. Have a basic understanding of the international status of civil engineering disciplines and related industries, and possess initial communication and exchange abilities in a cross-cultural context.

Corresponding Courses: College English (1), College English (2), College English Extension Courses (1), College English Extension Courses (2), College English Practice (1), College English Practice (2), Professional English.

Humanities and Social Sciences Courses

Expected Learning Outcomes: Master knowledge of Modern Chinese History, Basic Principles of Marxism, Military Theory, etc., and engage in patriotism education, physical education, and military training.

Basic Requirements: Understand social phenomena, stay informed about and adapt to social development, possess communication and collaboration abilities, demonstrate good teamwork spirit, and promote physical and mental well-being and self-improvement. Have **sound character and good psychological qualities. Understand China's national conditions,** have humanistic and social science literacy, and social responsibility, enabling adherence to professional ethics and conduct in engineering practices, shouldering responsibilities, contributing to the nation, and serving society.

Corresponding Courses: Ethics and the Rule of Law, Outline of Modern Chinese History, Basic Principles of Marxism, Introduction to Thought and Theoretical System of Socialism with Chinese Characteristics, Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Situation and Policy, College

Student Mental Health Education, Career Development and Employment Guidance for College Students, Military Theory for College Students, University Physical Education and Health, Introduction to Life Sciences, Introduction to Environmental Science, Orientation Education and Military Training, Social Practice and Volunteer Service.

3.2 Workload and Credits

At Hunan City University, completing 16 contact hours of theoretical courses is equivalent to one Chinese credit. For practical training courses, completing 32 contact hours of study is equivalent to one Chinese credit. Chinese credits are based only on contact hours, whereas the European Credit Transfer and Accumulation System (ECTS) credits calculate not only contact hours but also self-study hours. From the perspective of ECTS credits, the student workload is the sum of his/her contact hours and self-study hours. Generally speaking, 30 hours (including contact hours and self-study hours) equates to one ECTS credit, but there are differences between the two credit systems in terms of self-study hours. When converting Chinese credits to ECTS credits, an average of 58 ECTS credits or 1740 hours (workload) per academic year is required.

3.2.1 Study Time (Workload) / Contact Hours, Credits, and Self-Study

The course hours and credits for each module of the Civil Engineering program can be found in **Appendix B-1**. The syllabus for each course is provided in **Appendixs B-2** through B-11. For the structural and categorization of workload for different modules, Table 3-1 provides the hourly statistics for the student's four years of study.

Table 3-1 Four-Year Course Hour Statistics

Module	Contact Hours	Self-Study Hours	Total Hours	Percentage
Mathematics and Physics	432	348	780	11.21%
Information Technology	80	40	120	1.72%
Engineering Fundamentals	640	515	1155	16.59%
Professional Foundation	240	225	465	6.68%
Professional Application	384	336	720	10.35%
Professional Practice	328	302	630	9.05%

Professional Development	144	81	225	3.23%
Integrated Application	590	670	1260	18.1%
Foreign Language	240	180	420	6.04%
Humanities and Social Sciences	718	467	1185	17.03%
Total Hours	3796	3164	6960	

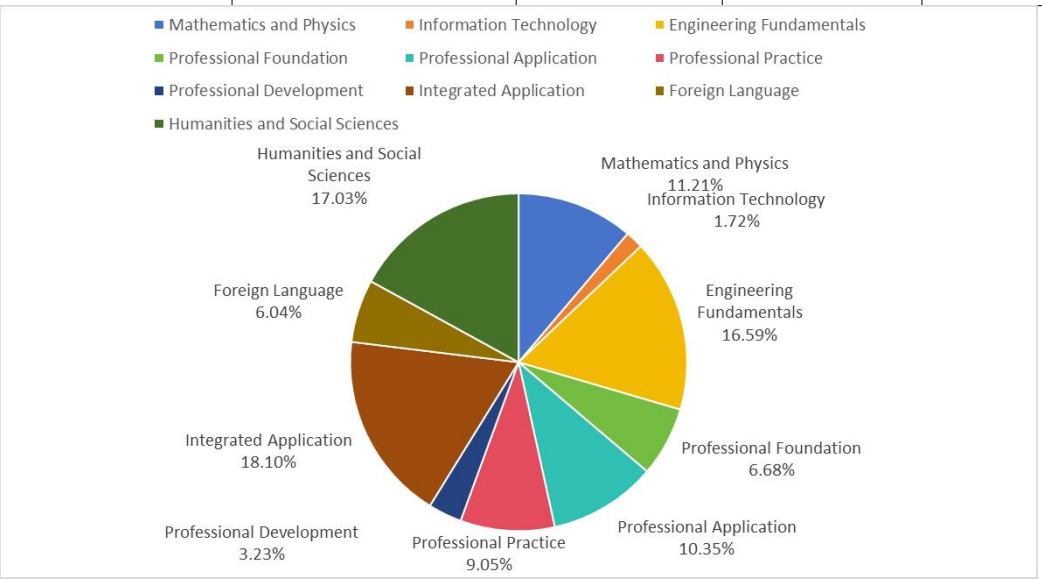

Figure 3.1 Credit Composition of Courses in Different Ability Areas

3.2.2 Credit System

Student learning outcomes are primarily reflected in the form of credits. Each undergraduate must earn the equivalent of 232 ECTS credits in Chinese credits after completing four years of study, meaning an average of 29 ECTS credits per semester. The credit deviation between different semesters should not exceed 3 ECTS credits. The contact hours for each semester are relatively balanced, ensuring that neither the student's learning effectiveness nor the teacher's teaching quality face structural pressure. Exam results are analyzed by the course instructors, and the student's study time is investigated by tutors and academic advisors to gather the actual learning workload for each semester, ensuring that the actual student workload aligns with the planned workload. Each student must complete approximately 870 hours (workload) per semester. 30 hours (workload) is equivalent to 1 ECTS credit.

3.3 Teaching Methods

Basic natural science courses and foundational discipline courses are mainly taught in large classes (approximately 80 students), while professional courses are typically taught

in smaller classes (around 40 students). Some courses include both theoretical content and in-class experiments, with the in-class experiments usually conducted in batches or groups. Elective courses may be chosen by students based on their personal interests and developmental needs.

In addition to classroom teaching, practical experience and training are also an important part of undergraduate education. The College of Civil Engineering, to which this program belongs, has over 20 national and provincial-level teaching platforms, such as the National Experimental Teaching Demonstration Center for Civil Engineering, providing excellent practical conditions. The College of Civil Engineering has also established over 100 off-campus internship bases, offering ample opportunities for student internships and practical training. At the same time, students can choose to engage in practical learning through on-campus research projects supervised by professional faculty members. Each student must participate in professional foundation experiments, integrated professional experiments, comprehensive course designs, innovation and entrepreneurship training, internships, and labor practice.

The teaching methods in this program also widely incorporate online learning models. Most courses have corresponding course websites on the Hunan City University online teaching platform. The established teaching management information platform and open online course websites provide students with abundant learning resources, stimulating self-directed learning and enhancing their self-study abilities. Practical teaching, such as course design, closely aligns with engineering practice. Engineering fundamentals theory courses introduce engineering practice applications, while professional core theory courses organize teaching around engineering practice projects, training students' engineering thinking, synchronizing course design calculations, optimizing during design weeks, and expressing engineering concepts; the graduation design requires students to conduct topic research based on engineering practice, adhering to the "time, place, and faculty" fixed model to ensure process control and quality of the design results.

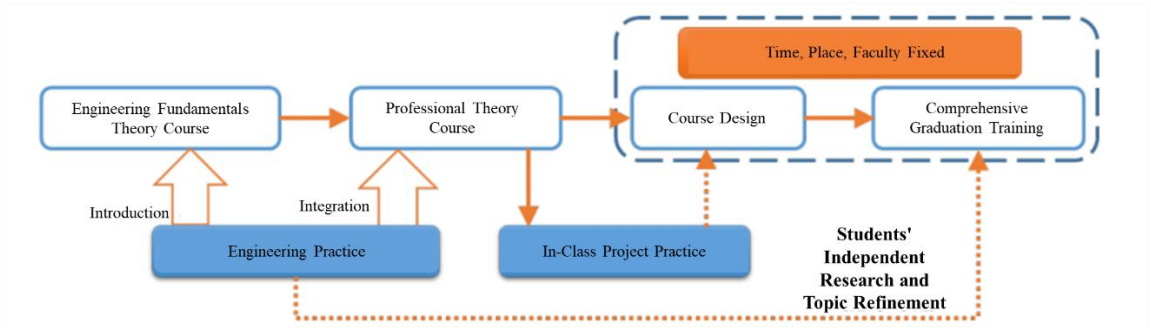

Figure 3.1 Design Teaching Process

3.4 Support and Consultation

(1) Office of Academic Affairs

The daily management and training of undergraduate teaching are primarily handled by the Office of Academic Affairs and the Teaching Quality Management Office. The Office of Academic Affairs is composed of the following departments: Academic Affairs Section, Educational Technology Section, Information Center, Training Section, Practice Section, Admissions Office, and Textbook Section.

External faculty and students must first log in to http://ywpt.hncu.edu.cn:4106/shiro-cas, then click on the school's Teaching Management Information System website: http://58.47.143.9:6038/jwglxt/xtgl/index_initMenu.html?jsdm=&_t=1732871736663#; faculty and staff of Hunan City University can log in to this website with their username and password. Without an account and password for HNCU's faculty or staff, login is not permitted. Once the faculty and staff of the university log in, the interface will appear as shown in Figures 3.2 and 3.3 below.

Figure 3.2 Login Interface of the Teaching Management Information System

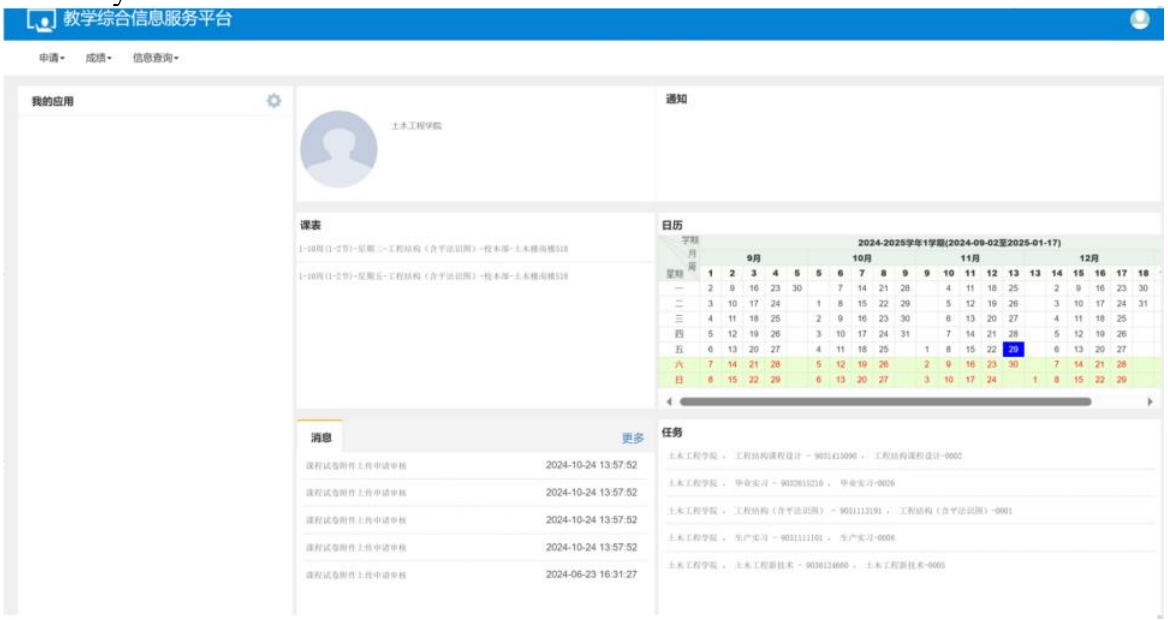

Figure 3.3 Post-Login Interface of the Teaching Management Information System

Each college under HNCU has a dedicated teaching office, responsible for managing the college's teaching affairs under the guidance of the Associate Dean of Teaching.

(2) Student Affairs Department

The Student Affairs Department at Hunan City University is the functional department responsible for student management, education, and services. Its main duties include: implementing ideological and political education, national security education, legal education, school rules and regulations education, health education, psychological education, and moral quality education for students; providing daily guidance and services to students, managing student affairs such as academic style construction, comprehensive quality assessment, evaluations for awards and honors, scholarships and financial aid, student loans, hardship subsidies, and dormitory management; overseeing the work of the Communist Youth League, including education of league members, and the establishment and management of league organizations; cultivating and assessing student candidates for the Communist Party, and managing the college’s branch of the party school; overseeing the selection and review of scholarships and financial aid, and managing the "Green Channel" for new students; conducting investigations and statistics on students’ financial difficulties, maintaining files on financially disadvantaged students, and managing a poverty-stricken student database; formulating and enforcing rules and regulations for student education and management; establishing, improving, and maintaining student management records; and handling employment recommendations and management for graduates.

(3) Student Counselor System

Hunan City University has established a comprehensive counselor system covering various aspects such as ideological education, party and league organization building, academic style management, mental health, career planning, and theoretical and practical research. The system is designed to promote the overall development of students. The responsibilities of a counselor specifically include: being responsible for the ideological and theoretical education of students and guiding their values, helping students establish a correct worldview, outlook on life, and values; being responsible for the construction of the Party organization, class, and student groups, which mainly includes the selection, cultivation, and motivation of student leaders, as well as the cultivation and education of students who are active candidates for the Communist Party, and guiding the organization and development of student Party branches and youth league organizations; being responsible for academic atmosphere construction and daily management, including orientation education, graduation education, military training, and helping students develop good study habits and correct study methods, ensuring the orderly progression of students' daily life; being responsible for psychological health education and counseling, conducting preliminary screening and guidance for students' psychological issues, organizing and promoting mental health awareness activities, and cultivating a rational, calm, optimistic, and positive mindset for students; being responsible for career planning and employment guidance, offering scientific career planning and employment guidance services for students. The counselor helps students establish correct views on employment, guiding students to contribute their efforts to grassroots areas, the western regions, and places where the country needs them the most. At the same time, counselors actively provide guidance and support for student innovation and entrepreneurship, inspiring students' innovative spirit and entrepreneurial enthusiasm. Counselors also have responsibilities in theory and practice research, as they are required to study the basic theories of ideological and political education and related disciplines, participate in academic exchange activities in related fields, and engage in research projects or topics related to ideological and political education both inside and outside the university, continuously improving their professional competence and working abilities. In addition, counselors are responsible for organizing students to participate in social practice, volunteer services, and other activities, fostering students' social responsibility and spirit of dedication, and addressing students' special needs, such as managing students with specific medical conditions, providing personalized services and support.

(4) Academic Advisors

Every undergraduate student has a designated academic advisor who guides them in their academic, professional, and career development. Academic advisors not only impart professional knowledge but also play the role of a guide and partner in the student's growth journey. The primary task of an academic advisor is to help students clarify their academic goals and develop personalized learning plans. By deeply understanding students' foundations, interests, preferences, and career plans, advisors will guide students to arrange their coursework in a reasonable manner, ensuring that students master foundational theories while also exploring the cutting-edge of their major. In terms of professional knowledge and skills development, academic advisors will make full use of laboratory resources to guide students in practical operations and project development. Through participation in research projects, innovative experiments, and academic competitions, students will not only consolidate theoretical knowledge but also develop innovative thinking and teamwork skills in practice. Career planning and employment guidance is another important responsibility of academic advisors. Advisors will combine industry development trends to provide students with employment information and job-seeking skills, helping them establish practical career plans. In addition, academic advisors also pay attention to students' mental health and offer humanistic care. By regularly communicating and interacting, they understand students' academic and personal situations, promptly identify problems, and provide psychological support and assistance.

(5) Corporate Advisors

Hunan City University implements the enterprise mentor system, dedicated to providing students with practical platforms closely connected to industry, to stimulate their innovative thinking and entrepreneurial potential. Enterprise mentors are rigorously selected and certified by Hunan City University. They are mostly experienced management elites or highly skilled engineers from various industries. The principle of mutual selection is implemented between students and enterprise mentors. Students have the right to independently choose enterprise mentors based on their career plans and research interests. At the same time, enterprise mentors may also select students based on project requirements to ensure efficient and harmonious mentoring relationships. Enterprise mentors provide professional insights and practical strategies throughout, helping students transform theoretical knowledge into practical applications. Additionally, enterprise mentors maintain close communication with academic mentors within the college, jointly building a "dual mentorship" teaching model, optimizing teaching resource allocation, promoting deep integration of industry, academia, and research, and creating a smooth pathway for students from campus to society.

(6) Course Websites

Online teaching has become an indispensable part of teaching activities, greatly enriching teaching methods and improving teaching efficiency. The online course resources for this program are mainly concentrated on HNCU's official online teaching platform (https://hncu.mh.chaoxing.com). This platform integrates various course resources, and students can log in to the platform to access detailed webpages for each course. These webpages are rich in content, covering course introductions, course backgrounds, teaching content, syllabi, exercises, and more, providing comprehensive learning guidance for students. On the platform, students can not only browse various materials closely related to the course, but also engage in real-time online communication with instructors. Students can ask questions at any time and from any place, and instructors can respond promptly. This face-to-face communication method allows students to gain a deeper understanding of course content, while also enabling instructors to more accurately gauge students' learning progress, thereby adjusting teaching strategies and improving teaching quality.

(7) Internal Major Transfer

At Hunan City University, in order to fully embody the student-centered educational philosophy and further stimulate students' learning enthusiasm and initiative, the university promotes students' comprehensive and individualized development. Based on a thorough consideration of HNCU's and college's existing teaching resources and conditions, maximum convenience is provided for students wishing to transfer majors. The *Management Measures for the Transfer of Majors by Full-time Regular Undergraduate Students at Hunan City University* **(see Appendix B-12).** The major transfer process follows the principles of procedural standards, fairness, and merit-based adjustments, mainly targeting first-year undergraduate students. Students are allowed to transfer majors only once during their time at HNCU. Once the major transfer application is approved by HNCU, it cannot be changed again.

Major transfer is divided into two categories: ordinary cases and special cases.

Students transferring majors must participate in the major transfer examination organized by the Office of Academic Affairs. The specific process is as follows: (1) The student applies by filling out the "Hunan City University Major Transfer Application Form" (see **Appendix B-12**) within 30 days before the end of the first semester of the first year, along with relevant supporting documents and a personal commitment letter (see **Appendix B-12**); (2) The approval of the dean of the originating college; (3) A comprehensive evaluation by the target college with the dean's approval; (4) Preliminary

review by the Academic Affairs Office; (5) Review by the university leadership responsible for undergraduate education; (6) Final approval by the president's office.

For special circumstances, they include: (1) Having specific expertise or special interests in the proposed new major; (2) Being affected by a certain disease or physical defect; (3) Being a student returning after military service or entrepreneurial leave; (4) The original major being discontinued or abolished during the student's leave of absence; (5) Other special circumstances not mentioned above. Students who encounter any of the above situations during their studies may apply for a major transfer. The specific process for transferring majors is as follows: (1) Students sign up; (2) Students take the major transfer exam or assessment after the first semester of the first year; (3) The Academic Affairs Office conducts a preliminary review of the list of students applying for a major transfer; (4) Review by the university leadership responsible for undergraduate education; (5) Public announcement by the Academic Affairs Office; (6) Final approval by the president's office; (7) Complete the formalities for the major adjustment.

For special cases such as students returning after military service or entrepreneurship, or students whose original major has been discontinued during a leave of absence, the application for a major transfer will follow higher-level policies. After approval from both the originating and target colleges, the Academic Affairs Office will review the application, and it will be finalized by the university leadership responsible for undergraduate education.

Students approved for transfer to a new major must handle the payment of tuition and other requirements for the new major before they can officially register and begin their studies in the new program. After a major transfer, students must meet the graduation qualifications as per the talent development plan of the new major. If the credits previously earned align with the talent development plan of the new major, the student must complete the "Hunan City University Credit Recognition Application Form for Transferred Students" (see **Appendix B-15**), and after confirmation from the target college, the form will be submitted to the Academic Affairs Office for recognition. Credits for courses that have not yet been taken but are required by the new major must be earned by retaking the courses.

4. Examination System, Concepts, and Organization

4.1 Examination Methods

To standardize the management of undergraduate course assessments, promote classroom teaching reforms, enforce examination discipline, establish a positive teaching

and learning atmosphere, improve the academic evaluation system, and enhance the quality of talent development, HNCU has developed the *Measures for the Assessment of Undergraduate Courses and Grade Management of Full-time Regular Higher Education in Hunan City University* (see **Appendix C-1**) in accordance with relevant policies and adapted to HNCU's situation.

Assessments are divided into two categories: exams and assessments. Students are required to participate in the assessments specified in the curriculum plan. Exams are primarily written, closed-book exams, though open-book exams may be conducted depending on the course requirements. Assessments for courses cannot be conducted in the form of closed-book exams, and the distinction between exams and assessments will be based on the curriculum plan. The exam content must cover the expected learning outcomes specified in the course syllabus (**Appendixs** B-2 to B-11), and must be indicated in the *Course's Proposition Review Form in Hunan City University* (**Appendix C-2**).

Assessment courses may adopt various forms such as oral exams, reviews, and defenses, emphasizing students' learning process and understanding of the knowledge. Practical components such as graduation comprehensive training, course design, orientation internships, and production internships generally use review or defense methods for assessment. Assessment results follow a 5-level grading system. For conversion standards, refer to the *Hunan City University Student Academic Management Regulations* (**Appendix C-3**).

Examination courses are planned and arranged by the Academic Affairs Office, primarily using closed-book written exams, with open-book exams conducted based on course requirements. The course exam score generally accounts for 60% of the total evaluation, with the regular grade accounting for 40% of the total evaluation. The ratio of final exam scores to regular grades may be adjusted according to course teaching requirements. A process evaluation mechanism must be established for the assessment of regular grades. Process assessments should include at least three different assessment forms, and the content should be diversified, standardized, verifiable, and traceable. Assessment methods include: online pre-study and discussion before class, classroom questioning, classroom discussions, mid-term tests, unit tests, experiments, assignments, course papers, attendance, etc. Among them, the proportion of experimental scores should comply with the requirements of the teaching (exam) syllabus. Regular grade assessments must be recorded in the *Hunan City University Student Grade Registration Form* (In **Appendix C-3**), and once determined, regular grades cannot be changed. The proportion of self-study hours can be found in the course syllabus (**Appendixs B-2~B-**

10), with the self-study portion reflected in various types of regular assessments, such as online pre-study, assignments, and course content. The final score is reflected in the *Hunan City University Student Grade Registration Form* (In **Appendix C-3**).

The course assessment result will be recorded as an overall evaluation score in the student's academic file. The overall evaluation score includes regular performance and final exam scores. In principle, the regular performance score accounts for 30%-50% of the overall course evaluation, while the final exam score accounts for 50%-70% of the overall course evaluation. A total score of 60 points or higher indicates passing. Only those with a passing or higher overall evaluation score can earn the corresponding course credits. Starting from the second semester of 2024, students with a final exam score below 45 points (previously 40 points) will not have their regular scores counted in the overall course grade evaluation and will not receive credit. The score will be based solely on the written exam result.

The specific composition of the exam format and overall grade has been clearly stated in the course syllabus. Therefore, students will know the exam format and the specific components of the overall grade immediately after course selection.

The assessment of students' moral character is based primarily on the *Code of Student Conduct in Higher Education Institutions*, with individual summaries and democratic evaluations, writing comments based on the student’s actual performance and assigning a grade.

Public physical education is assessed according to the national *University Student Physical Fitness Standards and Implementation Measures* and the *Hunan City University Physical Education Assessment Measures*. The university physical education assessment combines regular grades (40%) and final exam scores (60%). The regular assessment is based on the morning run results: 70 kilometers is a passing grade, 110 kilometers is full marks, and other results are calculated accordingly. The final exam consists of three parts: 1) Target shooting (30% of the final grade); 2) 1000-meter run for males / 800-meter run for females (40% of the final grade); 3) Push-ups for males / sit-ups for females (30% of the final grade).

The public service labor course grade is mainly based on a comprehensive evaluation of the student's attendance, work attitude, labor discipline, and completion of tasks.

The military training assessment grade is primarily based on the student's completion of the military training curriculum.

Appendix C-4 provides the grade reports for course exams and make-up exams, while the "*Hunan City University Student Academic Management Regulations*" (**Appendix C-3**) provides methods for converting grade points, credit points, and

average credit points. The corresponding relationship between grade points and assessment grades is shown in Table 4-1.

Table 4-1: Grading Conversion Method

Assessment Grade	Five-Level Grading	Grade Points Earned	Grade Point Median
90~100	Excellent	4.0-5.0	4.5
80~89	Good	3.0-3.9	3.5
70~79	Satisfactory	2.0-2.9	2.5
60~69	Pass	1.0-1.9	1.5
59 and Below	Fail	0	0

Note: For a percentage system, a score of 90 is converted to a 4.0 grade point, 91 to a 4.1 grade point, and so on; scores below 60 receive 0 grade points. For a letter grading system, an "Excellent" grade is equivalent to a 4.5 grade point, "Good" is equivalent to a 3.5 grade point, "Satisfactory" is equivalent to a 2.5 grade point, "Pass" is equivalent to a 1.5 grade point, and "Fail" is equivalent to a 0 grade point.

The eighth semester will include 14 weeks of comprehensive graduation training for the bachelor's degree, requiring students to independently complete tasks under the guidance of a supervisor, following the *Management Measures for Comprehensive Graduation Training at the College of Civil Engineering* (**Appendix C-5**). The graduation training supervisors must prepare the topics for the comprehensive training themselves, submit them for review by the department chair, and then submit them to the graduation training system. The comprehensive training topics, the tasks students need to complete, and the schedule are detailed in the graduation training task book (**Appendix C-6**), and students can find all the information in the task book once their thesis topic is selected. The assessment of the graduation training is conducted independently by both the supervisor and the reviewer, with independent grade submissions. The supervisor's grade (40%) and the reviewer's grade each account for 30% of the overall thesis grade, and the defense grade accounts for 30% of the overall thesis grade.

Examination papers shall be graded in strict accordance with the *Hunan City University Examination Management Measures* (**Appendix C-8**). The lead teaching team shall systematically align the assessment content with the expected learning outcomes specified in the course syllabus and the specific assessment requirements of

the current cycle. The degree of achievement of the prescribed learning outcomes within each course module shall be determined through an analysis of the weight distribution of key assessment points and the corresponding scores obtained. Upon completion of grading, instructors shall complete the *Hunan City University Course Examination Paper Analysis Form* (**Appendix C-7**) to evaluate whether the intended learning outcomes have been effectively achieved.

All course assessment results can be viewed by students through the teaching system using their student ID and password. The student grade inquiry interface is shown in Figure 4.1. If a student has any doubts regarding the grade of a course, they can submit a written application to the Academic Affairs Office for a grade re-evaluation (see **Appendix C-10**).

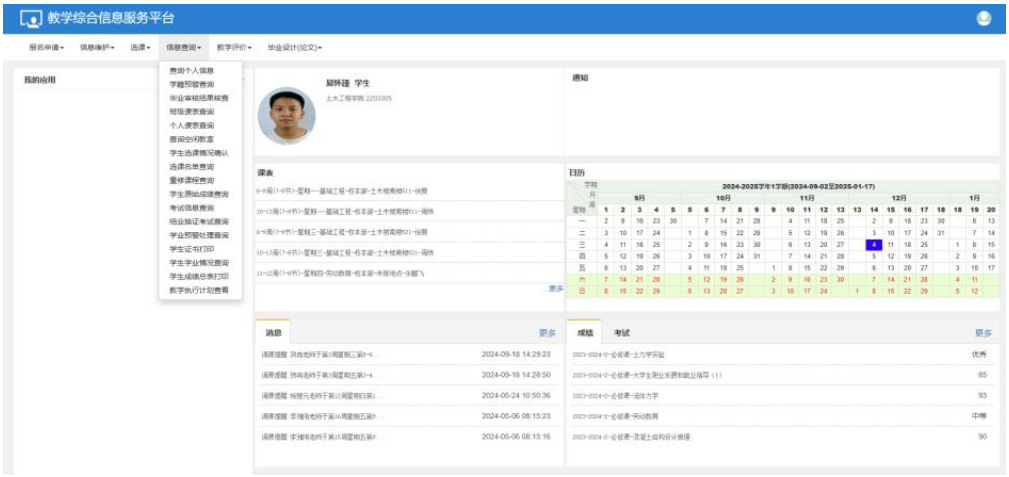

Figure 4.1 Student Grade Inquiry Interface

4.2 Examination Organization

The assessment for public courses is planned and arranged centrally by the Academic Affairs Office, with exams generally scheduled for the 19th and 20th weeks (finals) of each semester. The assessment for specialized and fundamental professional courses is organized by the respective colleges offering the courses. Assessments for non-exam courses are typically scheduled within the teaching period or within two weeks after the course ends, with exams for courses typically completed before the 18th week. The time and location for exams are meticulously arranged by secondary colleges and the Examination and Student Status Management Center of the Academic Affairs Office to ensure that exam venues meet normal exam requirements and are published in the teaching management system.

Exams are organized in accordance with the "*Hunan City University Full-time Undergraduate Course Assessment and Grading Management Measures*" (**Appendix C-1**). The grading of public course exam papers is coordinated and organized by the

offering secondary colleges, while the grading of professional and fundamental professional course papers is handled by secondary colleges. Secondary colleges must follow the uniform requirements set by the Academic Affairs Office and organize course instructors to grade papers in designated locations. It is strictly prohibited for instructors to take papers home for grading. Paper grading should be based on the reference answers and grading criteria. No modifications to the grading criteria are allowed during the grading process. After grading is completed, the grading instructors should analyze the course papers, fill out the *Hunan City University Exam Paper Grade Analysis Form* (**Appendix C-7**), and provide comments and suggestions for improvements regarding student performance, question design, and teaching.

Exams are organized according to the "*Hunan City University Examination Management Measures*." The management measures are as follows, with detailed rules in the **Appendix C-8**.

- Hunan City University Undergraduate Education Assessment and Grading Management Measures
- Hunan City University Examination Paper Review Form
- Hunan City University Regulations on Student Registration and Academic Records Management
- Hunan City University Student Grade Registration Form
- Hunan City University School of Civil Engineering Regulations on Comprehensive Graduation Training Management
- Hunan City University School of Civil Engineering Comprehensive Graduation Training Task Book
- Hunan City University Course Examination Paper Analysis Form
- Hunan City University Examination Management Measures
- Hunan City University Student Application for Grade Inquiry and Modification Review Form

For exams graded by multiple instructors, all must follow the reference answers and grading criteria established by the exam question group. The same instructor should grade the same question to ensure fairness in grading, and papers should be exchanged and calibrated for review.

4.3 Course Deferred Exams, Make-Up Exams, and Retakes

In general, students cannot apply for deferred exams unless they meet the relevant requirements set by HNCU. Students applying for a deferred exam must submit a request with valid documentation to their respective college (department) before the

exam. The application must be approved by the academic leader in charge of teaching and then approved by the Academic Affairs Office's deputy director before the deferred exam is granted; otherwise, it will be considered an absentee exam. The deferred exam application must be submitted to the course instructor, the Examination and Student Status Management Center, and the student's respective college. (Note: Deferred exams must be handled by the student personally, except in the following circumstances where classmates or teachers may assist: 1. If a student is unable to apply for a deferred exam due to illness, a classmate may help, provided the student submits medical or hospital documentation; 2. In urgent situations where a direct relative has passed away, a classmate may assist in requesting leave. 3. Handled collectively by related faculty of the College.) Students applying for deferred exams should do so, in principle, three days before the exam. In special cases, the application can be submitted within one week after the exam. Deferred exams are not allowed for assessment courses. If a student cannot attend the deferred exam at the regular makeup time due to special reasons, they can apply for deferral again, but this is limited to one instance. The deferred exam grade is composed of both regular grades and exam grades, weighted accordingly, with the teacher entering the regular grades for deferred exam students when recording final exams.

Students who received a failing grade in courses from the previous semester (except for courses with centralized practical teaching components such as course design) may take the makeup exam in the following semester. Makeup exams for courses are based on reserved final exam questions. The Academic Affairs Office, together with relevant secondary colleges, organizes makeup exams, which are scheduled before the start of the next semester. Makeup exam grades are entered into the grading system based on the actual exam scores.

For courses not passed in the makeup exam, students must apply and pay the fee to retake the course within the specified time, with no limit on the number of retakes. In principle, a student may retake no more than six courses in one semester (not including labs, practicals, internships, or course design). Course retakes are generally completed in the corresponding semester of the next academic year and require participation in course assessments. There are two types of retakes: retake classes or retaking with a regular class. Retake classes follow standard attendance and assessment policies, with grades comprising final and regular performance scores. Students permitted to retake courses due to failing grades receive credit upon passing the retake exam, with scores recorded and marked "retake," detailed in **Appendix C-1**.

5. Resources

5.1 Faculty

5.1.1 Faculty Composition

The Civil Engineering program boasts a teaching team with a balanced age and academic background, high comprehensive quality, and deep academic expertise. The Civil Engineering program has 82 full-time faculty members, including 15 professors, 37 associate professors/senior engineers, and 30 lecturers/experimental teachers, with 51.2% being younger than 45. The faculty includes 49 with doctoral degrees, and 96.3% possess a master's degree or higher. The department includes one expert receiving a special allowance from the State Council, one second-tier participant in Hunan Province's New Century 121 Talent Program, one Hunan Province Science and Technology Innovation Talent (Hejian), one academic leader in Hunan Province ordinary colleges, five young backbone teachers in Hunan Province, and 20 master's supervisors. The academic structure covers fields such as road engineering, bridge engineering, construction engineering, urban rail engineering, underground engineering, and geotechnical engineering, meeting the needs of the civil engineering course instruction. Faculty resumes for the Civil Engineering program are provided in **Appendix D-1**.

5.1.2 Faculty Teaching and Research Development

The Civil Engineering program offers more than 80 specialized courses. In recent years, the Civil Engineering program has actively promoted teaching reform and course development: four provincial and ministerial-level teaching achievement awards were obtained, eight courses were approved as top-tier undergraduate courses in Hunan Province, more than 100 teaching and research reform papers were published, and eight professional textbooks were published (see **Appendix D-2**).

Over the past five years, Civil Engineering faculty have completed 67 research projects, including 11 provincial and above-level research projects (5 National Natural Science Foundation projects, 32 Hunan Provincial Natural Science Foundation projects), and 30 enterprise cooperation projects, with a total research funding of nearly 13.8 million RMB. More than 120 core journal research papers have been published, including over 100 indexed by SCI and EI, 39 invention patents granted, and 4 science and technology achievement awards. Some of the research papers, national and

provincial-level research projects, and science and technology achievements are listed in **Appendix D-3**.

5.1.3 Faculty Workload

The standard teaching workload for each professional faculty member is as follows: professors are required to teach 300 hours per year, associate professors 320 hours per year, senior lecturers 320 hours per year, and junior lecturers 300 hours per year. The actual workload requirements may vary slightly depending on the position and academic rank. Deans and Party Secretaries of secondary colleges (who select teaching and research positions) are required to complete no less than 40% of the corresponding academic rank's task hours, while other senior administrative leaders must complete no less than 50% of the corresponding academic rank's task hours. Part-time department heads, office directors, laboratory directors, directors of teaching and research offices, Party branch secretaries of faculty branches, and part-time deputy secretaries of the university's Youth League Committee must complete no less than 65% of the corresponding academic rank's task hours. Part-time deputy department heads and deputy Party branch secretaries must complete no less than 80% of the corresponding academic rank's task hours. In addition, if a full-time teacher completes 60% of the required teaching workload in a given year but fails to meet the required task hours, research credits can be used to offset the teaching task hours. 1 research credit equals 10 teaching hours. If the teaching task hours fall below 60%, research credits cannot be used to offset the teaching workload. The calculation method for workload is outlined in the *Calculation and Management Measures for Undergraduate Teaching Workload of Hunan City University* (**Appendix D-4**). In the teaching workload completed by professional teachers, theoretical teaching hours should account for 30% of the required task hours. In addition to necessary theoretical teaching, each teacher must provide adequate guidance for students, including homework grading and practical guidance. These measures ensure that every student in the program receives sufficient guidance on courses and extracurricular assignments, helping students meet the curriculum requirements, acquire the necessary competencies for the program, and achieve the educational goals outlined in the training plan.

To cultivate students' international communication skills, the program has equipped faculty members who can teach in English and offers several English-language practice courses to create a favorable environment for professional English learning and communication.

5.2 Faculty Development

5.2.1 Relevant Training

HNCU has established a Faculty Development Center. The main responsibilities of the center include: strengthening and improving the ideological and political work for faculty, enhancing teacher ethics and teaching styles, organizing faculty training, guiding faculty career development, conducting teaching competitions and seminars, and addressing faculty mental health education issues. The organization is affiliated with the Personnel Office and has an administrative office under its structure. The purpose is to provide services for enhancing teaching competence through teacher training, teaching exchanges, teaching evaluation, teaching research, and teaching consultation, as well as conducting teaching quality assessments and diagnostics, advancing teaching reform and innovation, and continuously improving teaching quality. Currently, various forms of teaching training, teaching forums, and teaching demonstration observation activities have been organized. Additionally, several internal and external education and teaching experts, as well as renowned teachers, have been invited to give lectures.

(1) Pre-job Training for New Teachers: In compliance with relevant Hunan Province and university regulations, all newly hired individuals engaged in education and teaching work, including full-time faculty, counselors, experimental technical staff, other professional technical positions, administrative staff, and personnel transitioning from non-teaching to teaching roles, are required to participate in the pre-job training organized by HNCU. Pre-job training consists of two parts:

The first part includes 136 total hours of course training, covering 24 hours for Professional Ethics and Self-Cultivation for University Teachers, 36 hours for Higher Education Studies, 32 hours for Higher Education Psychology, 15 hours for An Overview of Laws and Regulations for Higher Education, and 29 hours for Teaching Skills for University Faculty.

The second part is school-based training. Newly hired teachers undergo education in areas such as moral and professional integrity, university culture and history, rules and regulations, as well as teaching skills. Each participating teacher is assigned a mentor with exemplary professional ethics, extensive teaching experience, and a title of associate professor or higher by their respective department. This mentor provides guidance for the comprehensive assessment of the course *Teaching Skills for University Faculty*. After completing the pre-job training, new teachers must obtain a qualification for university faculty in order to meet the basic eligibility requirements for teaching undergraduate courses.

The qualification recognition for teaching courses is organized by the college (or department/center). A team of experts, formed by the College's Professors' Committee and key faculty of relevant courses, reviews and evaluates trial teaching sessions conducted by applicants to determine if they meet the qualification requirements for teaching the course. Instructors identified as "qualified to teach the course" can independently take on the task of delivering the course. Instructors identified as "basically qualified to teach the course" require further improvement in teaching abilities, and the college (or department/center) should assign course mentors. Under the mentorship of these course mentors, they may take on the responsibility of delivering the course.

(2) Mentorship System for Young Faculty: To enhance the development of young faculty members, colleges are required, under the *Implementation Measures for the Mentorship System of Young Teachers in Hunan City University (Revised)* **(see Appendix D-5)**, to assign each newly hired young teacher a mentor with an associate professor or higher title. This leverages the expertise and mentorship of senior teachers to guide, assist, and support the growth of young faculty, aiming to develop their moral and professional integrity, teaching capabilities, and research competencies, ensuring steady improvement in the quality of talent cultivation. Mentors provide guidance and training to mentees in areas such as professional ethics and integrity, teaching research and reform, and scientific research, helping mentees master the principles and methodologies of higher education. The mentorship period generally lasts for two years. After new teachers enter the school, they must quickly familiarize themselves with teaching processes, and acquire and master basic methods and skills for engaging in teaching and research work under the guidance of a mentor, becoming qualified university-level educators.

The list of mentors for the young teacher mentoring program in the Civil Engineering major can be found in **Appendix D-6**.

(3) Personal Career Plan for Teachers: To further strengthen faculty team development and enhance HNCU's overall competitiveness, the school has developed and implemented the *Personal Career Plan for Teachers*, clearly defining aspects such as personal research fields and key research directions, research goals (including short-term, medium-term, and long-term targets), further study and social practice plans, teaching plans, and the application for teaching and research projects. Additionally, HNCU has introduced the *Hunan City University Management Measures for Teaching Staff Pursuing Doctoral Degrees while Employed (Trial)*, encouraging young faculty to pursue doctoral degrees while working, further optimizing the faculty structure,

reserving a group of young innovative talents with international perspectives and development potential, and encouraging doctoral students to produce high-level research achievements, to promote the high-quality development of HNCU.

(4) Work Experience and Overseas Study:

To further strengthen faculty development, the school seeks to cultivate a high-level teaching staff with "dual professional and technical abilities" and an international perspective to meet the educational and teaching needs of applied universities. It aims to improve the professional skills and comprehensive quality of young teachers by encouraging them to engage in external field training at school-industry-research collaboration units or public companies and high-tech enterprises or to visit and study at well-known domestic and international universities or institutions, typically for a period of 1 year. Many faculty members in this program have technical cooperation projects with enterprises, assisting them in solving practical technical challenges, and some teachers have industry work experience. Each professional teacher in this program has the opportunity to visit and study at renowned universities or institutions domestically and abroad. The College has a set number of teachers each year who can receive support from the Hunan Provincial Department of Education for up to 12 months of training and study. HNCU encourages faculty, especially young teachers, to receive training and study at high-level universities or institutions both domestically and internationally.

The Civil Engineering faculty's industry work experience, part-time work, as well as domestic training and international exchange experiences, can be found in **Appendix D-7**.

5.2.2 Relevant Funding

The Hunan Provincial Department of Science and Technology provides multi-level and various forms of funding support for Hunan City University faculty, including domestic and overseas study visits, industry-academia-research collaborations, and experimental team-building plans, to enhance their professional academic research and teaching capabilities. Specifically, funding support is given for young teachers in Hunan Province to carry out research activities, with funding amounts varying according to the location of the host unit or institution. The school allocates special expenditure from the faculty training budget or from relevant provincial key discipline programs and teaching and research platform funds. For those selected by higher authorities, the school funds tuition and accommodation costs beyond those subsidized by the Ministry of Education and the Department of Education, reimburses monthly round-trip transportation costs within the province, and reimburses transportation costs once per semester for travel

outside the province, with total funding not exceeding 10,000 RMB. HNCU dispatches personnel for study visits with a budget of 10,000 RMB per year for in-province expenses (including tuition, accommodation, materials, and transportation) and 15,000 RMB per year for out-of-province expenses (including tuition, accommodation, materials, and transportation).

Hunan City University provides research start-up funding for newly recruited teachers, granting 100,000 to 200,000 RMB per young faculty member with a doctoral degree in this field. Additionally, HNCU has continuously implemented the "351" talent program, with funding support reaching 40,000 to 100,000 RMB per year.

5.3 Institutional Environment, Financial and Material Resources

5.3.1 University Overview

Hunan City University is a full-time regular undergraduate institution sponsored by the People's Government of Hunan Province. HNCU's predecessor was Yiyang District Normal Junior College, founded in 1970 (renamed Yiyang Normal Junior College in 1992), and Yiyang Basic University, founded in 1978 (renamed Hunan Urban Construction Junior College in 1993).

In March 2002, it was approved by the Ministry of Education to merge and form Hunan City University from the then Hunan Urban Construction Junior College (a national exemplary junior college) and Yiyang Normal Junior College. HNCU adheres to the educational policies of the Party and the State, upholding the school motto "Integrated Character and Learning, Unity of Knowledge and Practice," and strives to run a university that satisfies the people. In 2012, it was recognized as the second batch of "National Graduates with Typical Employment Experience" institutions. In 2014, it was approved to establish a National Experimental Teaching Demonstration Center for Civil Engineering, and became a "Ministry of Education Information Technology Construction Pilot Unit." In 2016, it was approved to co-establish a "Confucius Institute" with the University of Cape Coast in Ghana and was approved as a national maker space. In 2018, it became part of the "High-level Application-oriented Colleges" in Hunan Province. In 2020, it advanced to the first batch of undergraduate admission in Hunan Province and was included in the second batch of "Three Comprehensive Education" comprehensive reform pilot units in Hunan Province. In 2021, it was approved by the Ministry of Education as the only new master's degree granting unit in Hunan Province. In 2022, six disciplines were selected as a "Fourteenth Five-Year Plan" application-oriented disciplines in the province, and 33 first-rate undergraduate programs were approved above the provincial level. In 2023, it recruited its first batch of master's

students on its own, achieving a historic leap in educational level, with the Modern Industry Institute of Electronic Information being included in the third batch of Modern Industry Institutes in Hunan Province. In 2024, it added 8 new master's degree authorization points, basically achieving full coverage of disciplines, and officially began the construction of a new campus (Xiyuan District).

HNCU currently occupies a campus area of 1415 mu, with a building area of 592,500 square meters. It possesses fixed assets valued at 1.543 billion RMB. The library holds over 2.84 million volumes of printed books and over 2.28 million electronic books. There are 1,475 full-time teachers, with 141 holding senior professional technical titles and 415 possessing doctoral degrees. There are 138 instances of national and provincial-level high-level talents, including members of the Ministry of Education's Undergraduate Teaching Instruction Committee, State Council special allowance experts, and Ministry of Education New Century Excellent Talents. The university has 1 national course teaching team, 42 provincial course teaching teams, and 1 provincial high-level research team. HNCU has 14 secondary colleges and 56 undergraduate programs, primarily focused on engineering, covering various disciplines including science, literature, management, education, arts, economics, law, and agriculture. HNCU enrolls students from 30 provinces, cities, and autonomous regions. It currently has over 25,000 full-time undergraduate students and 12 authorized master's degree programs, with 114 graduate students enrolled.

HNCU adheres to the fundamental task of cultivating virtue and talent, with the goal of training high-quality applied talents. It has established the "1234" applied talent cultivation system. This system emphasizes the development of student abilities as the main focus, incorporating ideological and political education, as well as innovation and entrepreneurship education throughout the talent development process. Through three major course modules—basic ability courses, professional ability courses, and development ability courses—the system aims to achieve the four cultivation requirements of "solid foundation, strong application, unique characteristics, and high quality." HNCU actively serves national strategic needs and Hunan’s "three highs and four news (that is focus on building a national hub for advanced manufacturing, technological innovation with core competitiveness, and a highland of reform and opening-up in inland areas. Forge new paths in promoting high-quality development, demonstrate new achievements in shaping the new development pattern, and highlight new responsibilities in the rise of the Central China region and the development of the Yangtze River Economic Belt. Strive to write a new chapter for Hunan in the new era of upholding and developing socialism with Chinese characteristics.)" vision, aligning with

industries and sectors, strengthening professional content construction, optimizing urban construction, enhancing information manufacturing, innovating management services, and solidifying teacher education. The Urban and Rural Planning program is a national-level distinctive program and a comprehensive reform pilot program. The Urban and Rural Planning, Civil Engineering, Civil Engineering, and Engineering Management programs are recognized as national first-class undergraduate programs, while 29 other programs, including Mechanical Design, Manufacturing and Automation, Landscape Architecture, and Physical Education, are recognized as first-class undergraduate programs in Hunan Province. The university offers 78 provincial-level and above first-class and excellent courses. The university has won 3 national-level teaching achievement awards and 39 provincial-level teaching achievement awards.

HNCU has 40 provincial-level and above teaching platforms, including the National-Level Experimental Teaching Demonstration Center for Civil Engineering and the School-Enterprise Cooperative Talent Cultivation Demonstration Base for Electronic Information-related majors. The National-Level Experimental Teaching Demonstration Center for Civil Engineering was rated as excellent during the Ministry of Education’s inspection (2018-2022) and received construction funding support of 100 million yuan. The Electronic Information Modern Industry College, jointly established with Huawei Technologies Co., Ltd., Hunan Create Technology Co., Ltd., and Hunan Aihua Group Co., Ltd., is a modern industry college in Hunan Province. The university has also partnered with the People's Government of Nanxian County to establish Hunan Province's first "Rural Revitalization Planning College." The university collaborates with enterprises such as The 23rd Metallurgical Construction Group Co., Ltd. of Minmetals and Aoshikang Technology Co., Ltd. to carry out "order-based" talent development and has established "Broad Academy" in cooperation with Broad Homes. The university has signed industry-academia-research cooperation agreements and internship base agreements with over 400 companies, including China National Nuclear Corporation, China State Construction Engineering Corporation, and China Railway Group Limited. It operates two university-run enterprises: the Design Institute Research Co., Ltd. and the Civil Engineering Testing Center. The Design Institute Research Co., Ltd. holds 10 Grade A qualifications in fields such as urban and rural planning, architectural engineering, and municipal roads. It is a "National High-Tech Enterprise" with an annual output value exceeding 200 million yuan. Its business scope covers 122 counties (cities, districts) in Hunan Province, with a national presence and expanding into overseas markets such as Africa, Southeast Asia, and Russia. Each year, HNCU-run

enterprises accept 1,000 to 2,000 students for internships and practical training, offering real-world projects, making them a crucial platform for HNCU's talent development.

HNCU has six "Double First-Class" application-oriented disciplines in Hunan Province, including Civil Engineering, Urban and Rural Planning, Information and Communication Engineering, Management Science and Engineering, Chemical Engineering and Technology, and Chinese Language and Literature. It possesses 43 provincial-level and above scientific research and innovation platforms, such as a national-level maker space, the Key Laboratory of Digital Urban and Rural Spatial Planning in Hunan Province, the Key Laboratory of Hunan Dark Tea Golden Flower, the Hunan Research Center for Theoretical System of Socialism with Chinese Characteristics, and a postdoctoral scientific research and development collaboration center. In recent years, 64 national-level projects, including the National Natural Science Foundation and Social Science Foundation, have been completed. The university has won 24 awards for national and provincial-level scientific and technological achievements as well as outstanding awards for Social Science Foundation projects. Its planning and architectural design achievements have received over 150 industry awards at the provincial and ministerial levels and above, including 14 national-level awards. The university undertook the Hunan counterpart support for Xinjiang key project—Turpan New Ximen Village Rural Revitalization Plan—which received high praise from President Xi Jinping. The "Spatial Development Strategic Plan for the Ecological Green Heart Area in Changsha-Zhuzhou-Xiangtan" compiled by the university won the first prize in an international bidding competition. The *Classification Standards for Town (Village) Green Space* formulated under its leadership was approved as a national industrial standard by the Ministry of Housing and Urban-Rural Development. The "Global Xinshi" doctoral team at the College of Civil Engineering obtained more than 40 intellectual property rights for core technologies in satellite tracking of wildlife and achieved three internationally advanced research results, filling the gap in China's wildlife tracking technology field. It also established the country's largest wildlife tracking big data center, with CCTV featuring its breakthroughs dozens of times. The university was approved as a provincial intellectual property center for higher education institutions, and its volume of technology contract transactions ranks among the top in the province. It led the establishment of the Hunan Urban Studies Association, and the Hunan Research Institute for New Urbanization was selected as a provincial characteristic think tank. HNCU's *Journal of Hunan City University* received multiple accolades, including "Top 100 Social Science Journals of Chinese Universities," "Top Ten Journals of Local Universities in China," "National High-Quality Social Science

Journal," and "Core Journal of Chinese Humanities and Social Sciences." It also serves as the official publication of the Urban Governance and Policy Research Committee of the Urban Planning Society of China.

HNCU adheres to an open schooling strategy and has achieved significant results in international collaboration and exchanges. It has established close partnerships with universities in Singapore, Australia, Ghana, New Zealand, Malaysia, the United States, Macau, and other countries and regions. It collaborates with New Zealand's Whitireia Polytechnic in the field of Visual Communication Design and cooperates with the University of Cape Coast in Ghana to host the Confucius Institute, becoming the first institution of its kind in Hunan Province. HNCU has successfully organized two sessions of the China-Africa International Academic Conference on Urban Construction, inviting representatives from over 20 universities in China and Africa, as well as more than 1,000 scholars, government officials, and international students in China, providing a comprehensive platform for deep cooperation between China and African countries. With the active promotion of HNCU, Chinese has officially been incorporated into Ghana's national education system. HNCU successfully became a member of the Ministry of Education's "China-Africa University Alliance Mechanism." Since 2023, HNCU has vigorously advanced international cooperative education with universities in South America and Central America.

In recent years, HNCU's distinctive educational practices and comprehensive reform experiences have been prominently featured on national and provincial media platforms. The *China Education News* featured an article titled *Driving Fast Development with Major Reforms – The Path of Hunan City University* that highlighted HNCU's experiences in pushing its "Six Breakthroughs and Six Establishments" comprehensive reforms with the goal of building a high-level application-oriented university. Another article in the *China Education News*, titled *Hunan City University Strengthens Teaching Resource Allocation, Focuses on Teaching Reforms*, reported on HNCU's achievements in pressing for educational and teaching reforms. The *Guangming Daily* and *China Education News* covered the story of President He Zhen becoming an "Employment Recommendation Officer" to open new pathways for graduate employment and to build new bridges connecting the university and enterprises. The Ministry of Education's official website column "Frontline Reporting" published an article titled *Hunan City University Vigorously Strengthens Grassroots Teaching Organization Development*, introducing HNCU's insistence on focusing on its fundamentals and emphasizing the foundational role of grassroots teaching departments in instilling moral character and nurturing people. The *Hunan Daily* published an article titled *Strict Oversight and Good*

Guidance, Steering the Course for Moral Education, promoting HNCU's innovations and practices in teaching supervision work.

At this new historical juncture, HNCU will uphold the great banner of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, adhere to socialist principles in running the school, fulfill its fundamental task of moral education, bravely take responsibility, and dare to make a difference. It aims to cultivate more high-quality application-oriented talents for Chinese-style modernization and contribute to the great rejuvenation of the Chinese nation!

5.3.2 College Overview

The College of Civil Engineering at Hunan City University originated from the Department of Architectural Engineering at Hunan Urban Construction Junior College, founded in 1984. In 2002, Hunan Urban Construction Junior College merged with the former Yiyang Normal Junior College to form a bachelor's program, and the college began admitting undergraduate students.

The college has a deep foundation in education and a long-standing tradition, refining a distinct educational feature. The college currently offers seven undergraduate majors: Civil Engineering (with specializations in Building Engineering, Road and Bridge Engineering, Urban Rail Transit Engineering), Engineering Cost, Urban Underground Space Engineering, Traffic Engineering, Water Conservancy and Hydropower Engineering, Safety Engineering, and Intelligent Construction. It currently has 3,700 full-time undergraduate students and 53 master's students.

The college possesses over 20 national and provincial teaching and research platforms, such as the National Experimental Teaching Demonstration Center for Civil Engineering, the Hunan Provincial Engineering Research Center for Lecithin Concrete Technology Development and Application, the Hunan Provincial Engineering Research Center for Urban Underground Infrastructure Structure Safety and Disaster Prevention, the Hunan Provincial Key Laboratory of Green Building and Intelligent Construction in General Higher Education Institutions, the Hunan Provincial Technological Innovation Team for Key Green Concrete Structure Technology and Applications, the Hunan Provincial Industry-Education Integrated Application-Oriented Talent Training Research Base, the Hunan Provincial Civil Engineering Virtual Simulation Teaching Center, the Hunan Provincial Civil Engineering Innovation Training Center for Undergraduates, the Hunan Provincial Demonstration Base for University-Enterprise Cooperative Talent Training in Civil Engineering, and the Hunan Provincial BIM Technology Innovation and Entrepreneurship Education Center. The college also holds the Hunan Provincial

"Double First-Class" application-oriented discipline in Civil Engineering, the national first-class undergraduate program construction site for Civil Engineering, and the first-class undergraduate program construction sites in Hunan Province for Civil Engineering and Engineering Cost, as well as the Hunan Province's Excellent Teaching Team in Structural Engineering. The master's program in Civil and Water Conservancy began enrolling students in 2023.

The College has a strong faculty with a well-structured team. Currently, it has 189 staff members, including 185 full-time faculty members. Among the full-time faculty, there are 18 professors, 70 associate professors, and 98 with doctoral degrees. 95% of the faculty hold doctoral or master's degrees. The College includes experts who enjoy special allowances from the State Council (1 person), a Hunan Province Science and Technology Innovation Talent (1 person), a second-tier talent from Hunan Province's New Century 121 Talent Project (1 person), a Hunan Province disciplinary leader in higher education (1 person), 11 young key teachers in Hunan Province, and 31 master's degree supervisors. Additionally, 96 faculty members possess dual professional qualifications, including engineering series and various registered industry professional qualifications.

The College boasts strong educational capabilities and excellent facilities. It has specialized laboratories in materials science, mechanics, geotechnical engineering, structural engineering, road engineering, transportation, BIM, water conservancy, and safety. The College owns 28,000 square meters of civil engineering buildings and 5,400 square meters of structural laboratories. It is equipped with advanced experimental instruments and devices such as the GTS dynamic triaxial test system, multi-channel electro-hydraulic servo loading system, 500-ton pressure testing machine, electro-hydraulic pulsating fatigue testing machine, multifunctional vibration testing system, ultrasonic testing instruments, and IDS ground penetrating radar, with a total value of over 30 million RMB.

The College focuses on the forefront of industry academics and aligns its educational approach with new technologies, processes, and business models that meet the quality requirements for new engineering talent. Since 2016, it has been the first among similar universities in Hunan Province to offer courses in BIM technology and prefabricated buildings. In 2018, the College fully launched an engineering education evaluation (accreditation) for the Civil Engineering program and established a new talent development model based on the OBE (Outcome-Based Education) concept. The College emphasizes the cultivation of students' innovation awareness and capabilities, launching over 30 national and provincial-level student innovation research projects. It

has received over 300 awards in national and provincial-level competitions, including first place in the National College Students' Structural Design Competition, first place in the National College Students' Advanced Drafting Technology Modeling and Product Innovation Competition, and top awards in national BIM graduate design competitions.

The College is committed to quality development and distinctive growth. It has built an application-oriented talent training system based on the “1234” framework: One main line (student capability development); Two integrated elements (integrating ideological and political education and innovation/entrepreneurship education throughout the educational process); Three major course modules (basic courses, core professional courses, and capability development courses); Four characteristics (solid foundation, emphasis on application, distinctive features, and high quality). The College insists on connecting high standards with the main battlefield, maintaining strict teaching and learning discipline, advancing ideological course development, and adopting a student-centered approach to talent development. It is dedicated to enhancing educational and teaching quality and improving talent cultivation outcomes. The College advances deep integration of industry-university cooperation and practical-education integration. Relying on university-run enterprises such as HNCU's Planning and Architectural Design Research Institute, Testing Center, and Supervision Company, it strengthens students' professional internships and practical training programs. Order-based talent training is carried out in collaboration with The 23rd Metallurgical Construction Group Co., Ltd. of Minmetals and China Railway Beijing Engineering Bureau, where enterprises deeply participate in education and teaching processes, including formulating talent training plans, teaching syllabi, course design, and textbook compilation. Moreover, scholarship programs covering tuition fees, accommodation, and financial aid are provided to students of these order-based classes. The College adheres to an open educational approach and international cooperative education, establishing over 300 internship and practical training bases in partnership with enterprises such as CSCEC 5 Civil Engineering Co., Ltd., Hunan Construction Engineering Group, China Railway Guangzhou Bureau, and Broad Homes. Furthermore, it collaborates with renowned universities in countries such as the United States and Australia in the field of civil engineering to broaden students' international perspectives, enabling seamless alignment between graduates' employment and employers' needs.

Graduates of the College demonstrate strong comprehensive qualities and high applied capabilities. Employers praise them as "field-ready, retained, applicable, and capable," highlighting their exceptional competitiveness in the job market. The hard employment rate of graduates in central and state-owned enterprises exceeds 80%, and

the year-end employment rate has surpassed 96% for five consecutive years. According to research by authoritative social organizations, within five years post-graduation, the average salary of graduates from Hunan City University ranks third among universities in Hunan Province. Over the past 40 years, the College has trained more than 20,000 graduates in the field of urban construction. They have become the technical backbones and management elites in large enterprises such as China State Construction, China Communications Construction, China Railway, and China National Nuclear Corporation. Outstanding graduates have participated in major national engineering projects, including the Qinshan Nuclear Power Plant, the Hong Kong-Zhuhai-Macao Bridge, and the "Belt and Road" initiative, earning a high reputation in society. The College is acclaimed as the "Cradle of Urban Construction Talent."

5.3.3 Laboratory

To ensure the smooth and efficient operation of undergraduate experimental teaching, the College has developed a comprehensive experimental teaching management system in accordance with HNCU's regulations. Relevant management documents are detailed in **Appendix D-8**, and the implementation and oversight of the system are organized and supervised by the Director of the Demonstration Center.

(1) Management Structure

The National Experimental Teaching Demonstration Center for Civil Engineering (Hunan City University) was approved for establishment in 2014. It covers an area of 17,694 square meters, with over 9,800 sets of instruments and equipment, with a total value of more than 48 million RMB. HNCU provides guidance on asset and security management of the Demonstration Center through the Laboratory Asset Management Office and the Security Office, while also offering policy support, job evaluation, project approval, and funding for construction. The College is responsible for the allocation and use of the Demonstration Center's facilities and assets and conducts performance assessments of the center. The Demonstration Center is primarily responsible for the daily management and maintenance of the laboratory and its equipment. The Demonstration Center implements a director responsibility system, where the primary responsibilities of the center's director include overall coordination and academic guidance, overseeing experimental teaching and construction, as well as laboratory management and internal and external services.

(2) Management Responsibilities

To strengthen the construction and management of the Demonstration Center and improve the quality of experimental teaching and scientific research, the center is

managed in a hierarchical manner by HNCU's Party Committee, the Asset Management Office, the Academic Affairs Office, the Dean of the College of Civil Engineering, the Director of the Demonstration Center, and laboratory administrators. The demonstration center has four sub-laboratories: the Building Engineering Laboratory, the Structural Engineering Laboratory, the Geotechnical Engineering Laboratory, and the Safety and Traffic Engineering Laboratory. Each sub-laboratory has a designated safety management officer and safety administrator. HNCU's Party committee implements macro-level coordinated and unified management planning. All levels of management staff have clear responsibilities to ensure the smooth progress of laboratory teaching, and actively assist teachers and students in completing teaching and research tasks.

(3) Safety Management

The demonstration center, referring to the *Laboratory Environment and Safety Regulations of Hunan City University*, has developed several safety management systems, including the *Interim Measures for Safety Training and Inspection Management of the Civil Engineering National Experimental Teaching Demonstration Center*, *Safety Training and Inspection Management Interim Measures for Civil Engineering National Experimental Teaching Demonstration Center*, and *Safety Water and Electricity Regulations of the Civil Engineering National Experimental Teaching Demonstration Center*. These regulations, along with other safety rules, instrument operation standards, and safety warning signs, are posted in each laboratory to strengthen safety management. Laboratory safety administrators are fully responsible for the safety and sanitation management of the laboratories and supervise the implementation of safety measures. They focus on the four main safety aspects: fire prevention, water prevention, theft prevention, and accident prevention.

Staff members of the demonstration center participate in 1-2 safety training sessions (or safety discussion meetings) annually. These discussions cover safety practices, proper laboratory protocols, personal protective equipment, safety equipment, electrical safety, and emergency evacuation procedures. Before entering the laboratory, students are given safety education and undergo a safety assessment. Laboratory administrators are responsible for the safety and sanitation of the laboratory sections and assist project leaders in preparing experiments, enhancing safety and sanitation management.

The safety management officer and safety administrator of the demonstration center conduct daily safety checks and fill out the *Laboratory Safety Log of Hunan City University*. They organize weekly safety discussions to identify and address any deficiencies, ensuring the safety of the laboratories.

(4) Equipment Management

The demonstration center emphasizes the management of instruments, equipment, and devices. It has developed several policy documents, such as the *Interim Measures for Instrument and Equipment Usage Management of the Civil Engineering National Experimental Teaching Demonstration Center* and the *Laboratory Asset Management System of the Civil Engineering National Experimental Teaching Demonstration Center*, to improve the efficiency of equipment use, extend the lifespan of instruments, reduce material consumption, prevent damage, loss, accumulation, and waste, and ensure the orderly progression of professional laboratory teaching and research. All equipment manuals and technical documents are strictly entered into the equipment inventory upon receipt, with the purchaser and administrator clearly identified in the records. Daily maintenance of equipment is carried out by laboratory administrators. Specialized equipment is managed by individual sub-laboratories, which are responsible for routine repairs, calibration, and accuracy checks. For precise, costly, rare, and critical instruments purchased with funding for key disciplines, detailed records are kept, including the specific purchaser, storage room, and administrator at the time of receipt. Experienced personnel, assigned by the laboratory, manage the specialized equipment, establishing equipment logs and archives.

(5) Equipment Maintenance and Borrowing

The demonstration center has established the *Interim Measures for the Management of Borrowing Experimental Instruments and Equipment of the Civil Engineering National Experimental Teaching Demonstration Center* and the *Management Measures for Longitudinal Scientific Research Experiments of the Civil Engineering Experimental Center*. Experimental instruments and equipment are centrally managed and stored in various experimental sub-laboratories. The dedicated management personnel of each sub -laboratory are responsible for managing and maintaining the instruments and equipment. After usage, each project must submit a lab report or an experimental summary to the laboratory where the instrument is located. Instruments and equipment that are fixed in the laboratory or high-precision non-portable instruments are not to be lent out. When equipment use is needed, inform the relevant laboratory management personnel. Use is allowed after registration in the *Instrument Usage Logbook*, and departure is permitted once the laboratory management personnel confirms no equipment abnormalities and signs off in the *Instrument Usage Logbook*. Borrowing of instruments and equipment requires step-by-step approval by four people: the dedicated management personnel of the sub-laboratory, the laboratory director, the center office director, and the center director. Before instruments and equipment leave the center, borrowers must check that the borrowed instruments are functioning properly and that all accessories are complete.

Upon return, the instruments and equipment must be clean and tidy. If any accessories are missing, the instrument is not working properly, or if any damage has occurred, the borrower must compensate according to the *Hunan City University Instrument and Equipment Compensation Measures*. After using instruments and equipment, each project must submit a lab report or an experimental summary to the laboratory where the instrument is located. Borrowing instruments and equipment requires making an appointment with the relevant laboratory at least one day in advance. It is strictly forbidden for the borrower to lend the borrowed instruments and equipment to others or rent them out. Otherwise, their future borrowing will be restricted, and the primary borrower will be responsible for all consequences incurred during the borrowing period.

(6) Discipline and Professional Development

The demonstration center has four sub-laboratories: Building Engineering Laboratory, Structural Engineering Laboratory, Geotechnical Engineering Laboratory, and Safety and Traffic Engineering Laboratory. It supports fundamental experiments for professional students, teacher research experiments, and open experiments both inside and outside the university for 18 disciplines such as civil engineering and safety engineering. Annually, it completes over 20 courses and 213,000 student hours of experiments, involving more than 150 experimental projects. Please refer to **Appendix D-9** for the main laboratory introductions.

5.3.4 Discipline Research Platform

The college possesses over 20 national and provincial teaching and research platforms, such as the National Experimental Teaching Demonstration Center for Civil Engineering, the Hunan Provincial Engineering Research Center for Lecithin Concrete Technology Development and Application, the Hunan Provincial Engineering Research Center for Urban Underground Infrastructure Structure Safety and Disaster Prevention, the Hunan Provincial Key Laboratory of Green Building and Intelligent Construction in General Higher Education Institutions, the Hunan Provincial Technological Innovation Team for Key Green Concrete Structure Technology and Applications, the Hunan Provincial Industry-Education Integrated Application-Oriented Talent Training Research Base, the Hunan Provincial Civil Engineering Virtual Simulation Teaching Center, the Hunan Provincial Civil Engineering Innovation Training Center for Undergraduates, the Hunan Provincial Demonstration Base for University-Enterprise Cooperative Talent Training in Civil Engineering, and the Hunan Provincial BIM Technology Innovation and Entrepreneurship Education Center. The college also holds the Hunan Provincial "Double First-Class" application-oriented discipline in Civil Engineering, the national

first-class undergraduate program construction site for Civil Engineering, and the first-class undergraduate program construction sites in Hunan Province for Civil Engineering and Engineering Cost, as well as the Hunan Province's Excellent Teaching Team in Structural Engineering. The master's program in Civil and Water Conservancy began enrolling students in 2023.

The College advances deep integration of industry-university cooperation and practical-education integration by capitalizing on school-run enterprises such as the Planning and Architectural Design Research Institute, Testing Center, and Supervision Company. It strengthens students' professional internships and practical training programs by cooperating with China State Construction Railway Investment Engineering Group Co., Ltd., and the China Railway Beijing Bureau for order-based talent cultivation. The enterprises deeply participate in the talent training plan, teaching outline, course design, and textbook compilation, and also provide tuition, accommodation, and scholarships for students in their tailored classes. The College adheres to an open educational approach and international cooperative education, establishing over 80 internship and practical training bases with enterprises such as CSCEC 5 Civil Engineering Co., Ltd., Hunan Construction Engineering Group, China Railway Guangzhou Bureau, and Broad Homes, among which Hunan Yiyang Survey and Design Research Institute Co., Ltd. is an outstanding internship base in Hunan Province.

The College of Civil Engineering has a 28,000-square-meter civil building and a 5,400-square-meter structural laboratory, which provide strong support for scientific research for teachers and students. In recent years, students from this program have participated in the following projects or competitions: the National BIM Graduation Design Innovation Competition for Universities, the National College Students' Mechanics Competition, the National College Students' Structural Design Competition, the "Higher Education Cup" National College Students' Advanced Drafting Techniques and Product Information Modeling Innovation Competition, the National College Students' Industrialized Building and Smart Construction Competition, the National College Students' Structural Design Information Technology Competition, the National Prefabricated Building Vocational Skills Competition, and the National Rebar Application Skills Competition for Architecture Schools, among others. A total of more than 30 national and provincial-level innovative research projects for university students have been established, and over 300 awards have been received in various national and provincial-level competitions, including first place in the National College Students' Structural Design Competition, first place in the National College Students' Advanced

Drafting Techniques and Product Innovation Competition, the Grand Prize in the National BIM Graduation Design Competition for Universities, and numerous other awards.

5.3.5 International Exchange and Collaboration Platform

HNCU adheres to an open schooling strategy and has achieved significant results in international collaboration and exchanges. It has established close partnerships with universities in Singapore, Australia, Ghana, New Zealand, Malaysia, the United States, Macau, and other countries and regions. It collaborates with New Zealand's Whitireia Polytechnic in the field of Visual Communication Design and cooperates with the University of Cape Coast in Ghana to host the Confucius Institute, becoming the first institution of its kind in Hunan Province. HNCU has successfully organized two sessions of the China-Africa International Academic Conference on Urban Construction, inviting representatives from over 20 universities in China and Africa, as well as more than 1,000 scholars, government officials, and international students in China, providing a comprehensive platform for deep cooperation between China and African countries. With the active promotion of HNCU, Chinese has officially been incorporated into Ghana's national education system. HNCU successfully became a member of the Ministry of Education's "China-Africa University Alliance Mechanism." Since 2023, HNCU has vigorously advanced international cooperative education with universities in South America and Central America.

In recent years, the College of Civil Engineering has placed great emphasis on implementing the "Internationalized Education" strategy, focusing on global academic frontiers and strengthening international cooperation. The College has established cooperative educational programs with renowned universities in the United States, Australia, and other countries, sending more than 10 faculty members to visit international universities for academic exchanges, and more than 10 students to participate in international exchange programs. The number of students involved in international cooperation and exchange has been increasing year by year. The cultivation of students' international perspectives and innovation abilities has achieved significant results, laying a solid foundation for further international collaboration.

In order to assist students who are not fluent in Chinese to study in the Civil Engineering program, the College will further improve the English speaking abilities of its faculty and offer more bilingual courses. The College strengthens Chinese language training for students applying to study in China, helping them adapt quickly to campus life and the academic environment at Hunan City University.

International cooperation projects and conferences held by the College and this program in recent years can be found in **Appendix D-10**.

5.3.6 Corporate Practice Platform

The program has more than 100 off-campus internship and practical teaching bases. The main internship and practical teaching bases are listed in **Appendix D-11**, providing excellent opportunities for practical experience. Both the university and the enterprises jointly develop internship teaching outlines, compile internship guides, and establish corresponding support measures according to the talent training goals and curriculum requirements. Each base is equipped with a stable enterprise internship supervisor who works alongside the university instructors to guide and manage the students' internship activities. University supervisors are responsible for clearly outlining the internship content, tasks, schedules, and management regulations to the students. Enterprise supervisors, based on university requirements and enterprise operational realities, ensure the education on safety production, company rules, confidentiality systems, and other necessary topics. These off-campus practice bases meet the needs of civil engineering students for professional internships and graduation internships. The program annually accommodates approximately 300 students, allowing them to receive ample engineering practice and training, improving their ability to handle real-world problems and achieving the teaching goal of enhancing overall competencies.

5.3.7 Library and Information Resource Platform

The library holds an extensive collection of print and electronic books, journals, and other reference materials. It is managed effectively, highly shared, and meets the learning needs of students as well as the teaching and research needs of faculty members. A sufficient number of computers and a rich information resource platform are available. Students can access the internet and use online resources through computer labs, classrooms, and campus wireless networks. Students can access the needed teaching resources through various channels. By setting explicit requirements for literature retrieval in components such as core course topics, experimental teaching, course designs, and graduation designs, students are encouraged to make full use of the library and online resources for literature searches, problem analysis, and domestic and international research status analysis, supporting the achievement of graduation requirements.

(1) Library Resources

Hunan City University has established a "1+1+13" centralized library system, comprised of Shuyufu Library (Main Building), the Planning and Architecture Branch

Library, and 13 secondary college resource rooms. The Shuyufu Library (Main Library) has a building area of 20,200 square meters with 9 floors. The Planning and Architecture Branch Library has a building area of nearly 900 square meters. The library system provides over 2,900 reading seats (including seats in resource rooms of secondary colleges) and more than 60 seats in the electronic reading room. The library implements open-shelf borrowing and is open from Monday to Sunday, 7:00 a.m. to 10:00 p.m., providing 105 hours of service per week. The library is equipped with a lecture hall, conference rooms, and 14 faculty study rooms. It offers wireless internet access within the library and VPN remote access for off-campus users. Based on HNCU's disciplinary structure of "engineering and technology as the focus, complemented by economics, management, and art design," the library collects a variety of professional literature. Currently, the library holds over 2.845 million copies of Chinese and foreign-language print materials, nearly 400 types of print journals, and close to 9.75 million master's and doctoral theses.

In recent years, the library has intensified its efforts in building a digital library. Accessible electronic books exceed 4.7 million copies, and there are around 120,000 types of Chinese and foreign-language electronic journals. More than 60 electronic document databases are available, including Chinese databases such as CNKI, Wanfang Data, DuXiu, and Superstar Journals, as well as foreign databases like ScienceDirect, IEEE, ACS, SciFinder, ASME, SpringerLink, EBSCOHost, Emerald, Ei, PQDD, Web of Science, ESI, JCR, and Incites. Additionally, multimedia databases like Online Lecture Hall (https://wb.bjadks.com/home) and Global English (http://www.englibrary.com/userLogin.htm) are provided. This diversified collection structure has broadened its service channels, effectively ensuring access to academic resources for teaching, research, discipline development, and management throughout the university. To ensure the full utilization of library resources, the library offers the following services: literature borrowing, literature copying, printing, binding, interlibrary loan, document delivery, electronic reading, audio-visual materials, subject navigation, new scientific and technological achievement inspection, thematic search, surrogate document search, literature citation query, and information retrieval training.

In recent years, the school has intensified the construction of the digital library, launching the "Superstar Mobile Library," allowing faculty and students to use library resources anytime, anywhere via mobile phones or iPads, without IP address range restrictions. The download address for the Mobile Library client version is: http://m.5read.com/appdown.html (see Figure 5.1). A detailed introduction to the library can be found in **Appendix D-12**.

The program requires teachers to make full use of computers, networks, and library resources in course teaching. In all phases, including experimental courses, course design, internships, and graduation design, as well as in most professional courses over four years, teachers require students to use reference books and network resources for learning. This mainly includes collecting and filtering relevant literature, browsing reference books, translating foreign literature, and initially formulating experimental plans. Teachers assess students' learning outcomes through submitted assignments and course reports. The Academic Affairs Office and the library provide multiple computer network service stations to accommodate students lacking resources. Teachers can fully utilize the school's library and network resources to promptly obtain global scientific developments, cutting-edge knowledge, and related professional information, thereby improving the quality of teaching and research. The Chinese and foreign language databases in the library are listed in **Appendix D-12**, along with a list of academic journals related to this program in **Appendix D-12**. The lectures offered to students by the library are listed in **Appendix D-12**.

Figure 5.1 Mobile Library Client Version Download Address

The school offers rich and well-managed library resources relevant to this program, with a high degree of sharing. These resources fully meet the learning needs of students and the daily teaching and research needs of faculty, as well as the support conditions required by program accreditation standards.

The school has established relevant management systems and measures for computer, network, and library resources, including the *Hunan City University Library Violation Handling Rules*, *Hunan City University Library Borrowing Rules*, *Hunan City University Campus Card Management Measures*, *Hunan City University Information Office Core Machine Room Rules*, *Hunan City University Network Server Hosting Measures*, *Hunan City University Campus Information and Network Security Management Regulations*, *Hunan City University Website Management and Information Release Regulations*, *Hunan City University Campus Network Email Application and Usage Rules*, *Hunan City University Book Loss, Damage, and Theft Handling Rules*, *Hunan City University Library Security Management Rules*, *Hunan City University Library Fire Safety Management Rules*, *Hunan City University Library Graduate School Study Room Management Rules*, and *Hunan City University Electronic Reading Room Management System*. The shared usage of computer, network, and library resources includes the following aspects:

1) Establishing a dynamic departmental webpage to enhance service modules, such as adding friendly links and an information-sharing space. The library's WeChat platform sends out nearly 60 posts annually, publishing around 100 articles. Readers' online queries are answered 2-3 times weekly on average, totaling nearly 100 responses annually.

2) An information-sharing space has been established, covering over 1,200 square meters and divided into multimedia, recreational, experiential, and discussion areas. The multimedia area is equipped with computers and ergonomic chairs, the recreational area provides network access and power outlets, the experiential area features computers and high-precision 3D printers, and the tiered step area facilitates experiences with new technologies, lectures, and film screenings. The discussion area includes discussion rooms and semi-open discussion spaces. The information-sharing space functions efficiently.

3) The library has multiple self-service terminals for printing, copying, and scanning, processing nearly 200,000 pages annually (reaching 220,000 pages in 2019), significantly enhancing convenience for faculty and students to retrieve and utilize resources.

4) Modernized management of reading room seat resources is implemented through a seat management system, with nearly 500,000 seat selections made annually via the swipe system.

5) Annual user logins to the Mobile Library APP reach 275,000, with 1.2 million clicks, and 74,000 books downloaded from digital library borrowing machines.

(2) College Library Resources

The College of Civil Engineering is equipped with a first-tier public library reading room located in Room 813 of the Civil Engineering Building (approximately 116m²), holding 26,600 Chinese books and 3,600 foreign books. Its collection includes content such as cutting-edge information from journals like *China Civil Engineering Journal*, *China Journal of Highway and Transport*, *Journal of Building Engineering*, *Engineering Mechanics*, and *Rock Mechanics*. The resources generally meet the requirements of the program. Books are updated promptly, satisfying students' daily learning needs. The reading room is managed by designated staff from the College and is open long-term. Faculty and students can freely access and read books upon registration. Tables and chairs are provided for on-site reading, but books cannot be borrowed.

(3) Computer Resources

Hunan City University has ample computer resources, with program-related resources primarily housed in the library and the Engineering Training Center computer labs. These computer resources are sufficient to support students' learning, as well as faculty teaching and research needs.

(4) Other Information Resource Platforms

① Campus Network Infrastructure

Multiple measures have been implemented to significantly improve instructional informatization conditions. Projects such as the upgrade of the campus one-card system and the renovation of the academic lecture hall have been completed. Projects like upgrading the academic affairs system, the second phase of multimedia teaching equipment upgrades, and the development of smart classrooms are underway. With the completion of these projects, network infrastructure, teaching equipment, and instructional monitoring conditions have been further enhanced.

② Campus Information Infrastructure

HNCU has established a unified identity authentication platform as part of its smart campus development initiative. Realized data resource sharing and exchange application services, enabling public data sharing across five departments: Human Resources, Scientific Research, Academic Affairs, Student Affairs, and Graduate School. The

system provides comprehensive information services for students and faculty, including student affairs, academic affairs, financial services, library services, campus cards, and daily life. It also offers a unified user management platform and identity authentication services for various network services and application systems within the smart campus.

③ Campus One-Card System

Faculty and students use the campus one-card system, primarily for dining in the cafeteria, borrowing books on campus, attendance tracking, meeting sign-ins, access control, and on-campus medical services. The card functions as a substitute for work ID cards, student ID cards, and library cards, making it an indispensable tool for both students and faculty in their academic and work-related activities on campus.

④ Hunan City University Course Center

A course management center has been established to oversee the digitalized course teaching across the university. Using intelligent teaching platforms such as "Learning Pass," "Rain Classroom," and "Smart Tree," the university offers live-streamed and blended courses, providing full-process teaching assistance before, during, and after classes. Relying on the Superstar Pan-Yah Platform, 884 SPOC courses have been developed, and 469 courses have been accumulated using Rain Classroom. Additionally, 18 online open courses have been established through Smart Tree and XuetangX, with 6 of them operating on the National Smart Education Platform. The “Golden Course Plan” has been implemented, with 238 university-level "Golden Courses" established. Faculty members have created over 600,000 digital teaching resources, including electronic lesson plans, PPT presentations, and instructional videos on key topics. An online course management platform at the university level has been established, with more than 180 university-level and above courses launched online. In collaboration with Wisdom Tree and Sunflower Company, the university has built two on-campus teaching resource centers, providing on-demand support for digital teaching.

⑤ Teaching Management Information System

HNCU has established a Teaching Management Information System, which serves as the main platform for implementing teaching management and ensuring the smooth operation of teaching activities. This system is responsible for resource allocation, faculty scheduling, and full-process academic records for students.

This system comes with various personalized features that cover all aspects of teaching management, meeting both HNCU's teaching management needs and the daily operational requirements. The platform is powerful and easy to use, making it the primary tool for managing teaching activities. Through this platform, students can select

courses, evaluate teaching quality, and check course evaluation results. Through this platform, faculty can publish teaching calendars, access student information, and manage exam grades.

⑥ Graduation Design Management Platform

The College has established a management system for undergraduate graduation thesis and design, known as the Bachelor's Thesis Management Information Platform. Faculty can publish thesis topics through this platform, and students can freely choose topics of interest. This system monitors the quality of graduation theses, ensuring full-process management from topic selection to mid-term checks and defenses.

⑦ Barrier-Free Facilities

All offices, laboratories, lecture halls, and libraries on campus are fully covered by wireless networks. Computers in the computing center are updated annually according to actual needs to meet development requirements. Network and virtual reality technology facilitate the remote operation of high-end computer-assisted devices. All newly constructed laboratories, classrooms, office buildings, etc., are equipped with accessibility features to ensure smooth access for students with disabilities to teaching facilities.

In summary, to meet the needs of educational informatization, HNCU has comprehensively built a secure, efficient, scalable, and open information infrastructure on campus. Wireless network coverage is fully extended across public areas, and network-based administrative office operations, teaching informatization management, and resource sharing functions are in place. These efforts meet the learning needs of students, the teaching requirements of faculty, and the research needs of the academic staff.

5.3.8 Teaching and Office Facilities

This program's main teaching venues consist of three types: HNCU's teaching buildings, the engineering training center, and the College of Civil Engineering's practice (laboratory) center.

The total area of classroom spaces is 96,700 m² (518 classrooms); laboratory and internship areas cover 85,500 m²; sports facilities span 66,500 m², including one sports training hall, two standard athletics tracks, two standard soccer fields, 24 basketball courts, six tennis courts, and six gymnastics equipment areas. The arts venue area is 23,200 m². The construction of the Industry-Education Integration Building, Sports Teaching Center, and other facilities has begun, adding a total of 67,400 m² of new

construction area. HNCU has also acquired 1,100 acres of land on the west side for future development.

As of October 2024, HNCU has successfully built 96 high-quality recording studios, smart classrooms, observation rooms, and micro-lesson classrooms. Additionally, 281 classrooms are equipped with high-definition cameras with audio pickup. One intelligent teaching monitoring platform, one intelligent classroom patrol platform, and an intelligent teaching monitoring center have been established to enable real-time monitoring and online listening/viewing of classroom sessions.

The College of Civil Engineering has 58 specialized laboratories designed to meet teaching needs, external communication and collaboration, and faculty requirements for public and office spaces. Additionally, the College is equipped with several medium- and small-sized meeting rooms for hosting visiting scholar seminars and academic presentations. The industrial design program's laboratory is available for students to engage in independent academic research and experimental studies.

5.3.9 Accessibility Features

All offices, teaching areas, laboratories, lecture halls, and libraries on campus are fully covered by wireless networks. Computers in the computing center are updated annually according to actual needs to meet development requirements. Network and virtual reality technology facilitate the remote operation of high-end computer-assisted devices.

All newly constructed laboratories, classrooms, office buildings, etc., are equipped with accessibility features, ensuring students with disabilities can easily access these teaching facilities.

In summary, to meet the needs of educational informatization, HNCU has comprehensively built a secure, efficient, scalable, and open information infrastructure on campus. Wireless network coverage is fully extended across public areas, and network-based administrative office operations, teaching informatization management, resource sharing, and accessibility features have been implemented, meeting the learning needs of students, the teaching needs of faculty, and the research needs of academic staff.

5.3.10 Other External Collaborations

HNCU has fully implemented strategic cooperation with the government and large enterprises. The Electronic Information Modern Industry College, jointly established with Huawei Technologies Co., Ltd., Hunan Create Technology Co., Ltd., and Hunan Aihua Group Co., Ltd., is a modern industry college in Hunan Province. HNCU has also partnered with the People's Government of Nanxian County to establish Hunan Province's first "Rural Revitalization Planning College." The university collaborates

with enterprises such as The 23rd Metallurgical Construction Group Co., Ltd. of Minmetals and Aoshikang Technology Co., Ltd. to carry out "order-based" talent development and has established "Broad Academy" in cooperation with Broad Homes. The university has signed industry-academia-research cooperation agreements and internship base agreements with over 400 companies, including China National Nuclear Corporation, China State Construction Engineering Corporation, and China Railway Group Limited. It operates two university-run enterprises: the Design Institute Research Co., Ltd. and the Civil Engineering Testing Center. The Design Institute Research Co., Ltd. holds 10 Grade A qualifications in fields such as urban and rural planning, architectural engineering, and municipal roads. It is a "National High-Tech Enterprise" with an annual output value exceeding 200 million yuan. Its business scope covers 122 counties (cities, districts) in Hunan Province, with a national presence and expanding into overseas markets such as Africa, Southeast Asia, and Russia. Each year, HNCU-run enterprises accept 1,000 to 2,000 students for internships and practical training, offering real-world projects, making them a crucial platform for HNCU’s talent development.

The Civil Engineering program supports the national "dual carbon" strategy, continuously optimizing its discipline direction and strengthening school-enterprise cooperation and exchange. The College deeply promotes school-enterprise cooperation and industry-education integration, relying on university-run enterprises such as the Planning and Architectural Design Research Institute, Testing Center, and Supervision Company. It enhances students' professional internships and practical training, collaborates with The 23rd Metallurgical Construction Group Co., Ltd. of Minmetals and China Railway Beijing Bureau for order-based talent development. Enterprises actively participate in talent development plans, teaching syllabi, course design, and textbook writing. They also provide tuition, accommodation, and financial aid for order-based class students. The College adheres to an open-door educational philosophy and international cooperation by establishing over 80 internship and training bases in collaboration with companies such as CSCEC 5 Civil Engineering Co., Ltd., Hunan Construction Engineering Group, China Railway Guangzhou Bureau, and Broad Homes. The College engages in in-depth exchanges and discussions with cooperative enterprises in areas such as faculty development, talent cultivation, school-enterprise cooperation, and industry-education integration, achieving joint talent development, resource sharing, and promoting effective connections between the education chain and the industrial chain.

A list of the program's external cooperative enterprises and agreements for external internship and practical teaching bases can be found in **Appendix D-11**.

5.3.11 Teaching Investment in the Last Five Years

The Civil Engineering program has adequate teaching funds, allocated for basic undergraduate teaching operations, teaching construction, student innovation practice activities, and teaching reform project funding, with an annual increase in the teaching budget to ensure the normal conduct of teaching activities. Over the past five years, the program has invested over 5 million yuan in teaching funds, with 10.7 million yuan spent on laboratory construction. Detailed information on the program's teaching expenditure in the last five years can be found in **Appendix D-13**.

6 Quality Assurance Measures

6.1 Quality Assurance and Further Development

6.1.1 Internal Teaching Quality Evaluation

Each semester, under the unified arrangement of HNCU's Academic Affairs Office, each college and program will implement routine teaching inspections. The teaching inspections include the following areas: classroom theory teaching, practical teaching, and graduation design. Specific content to be evaluated includes textbooks, teaching plans, teaching style, learning atmosphere, exam papers, teaching process, teaching materials, and student feedback on course objectives. Student-centered, identifying and addressing potential issues in teaching and student learning processes. Taking the exam paper check as an example, at the end of each semester, each secondary college conducts a comprehensive analysis from three aspects: exam scores, paper analysis, and improvement measures, combined with the results of student surveys. This leads to proposed improvement actions and suggestions for teachers to enhance teaching quality. The Academic Affairs Office also conducts random checks on the exam papers for the semester and provides comprehensive improvement recommendations.

Additionally, the Civil Engineering program has established a complete system for process quality management and assurance, starting from course objectives, to graduation requirements, and finally to cultivation goals. The first aspect is quality monitoring and continuous improvement of course teaching. In this process, before the course begins, the College Teaching Advisory Committee reviews the syllabus; during the course, the teacher conducts formative assessments of the process; after the course, evaluations or surveys are conducted by supervisors, peers, and students. The second aspect is a survey on graduation requirements conducted for graduating students, used to continuously improve the curriculum system. The third aspect involves field visits to

alumni and employers to conduct comprehensive surveys on cultivation goals, which help improve graduation requirements and the curriculum system. The fourth aspect combines feedback from graduation requirements and cultivation goals, and based on the characteristics of the course system and individual courses, continuous improvements are made regarding issues such as laboratories and faculty. The process is shown in Figure 6.1, and detailed system documents are provided in **Appendix E-1**.

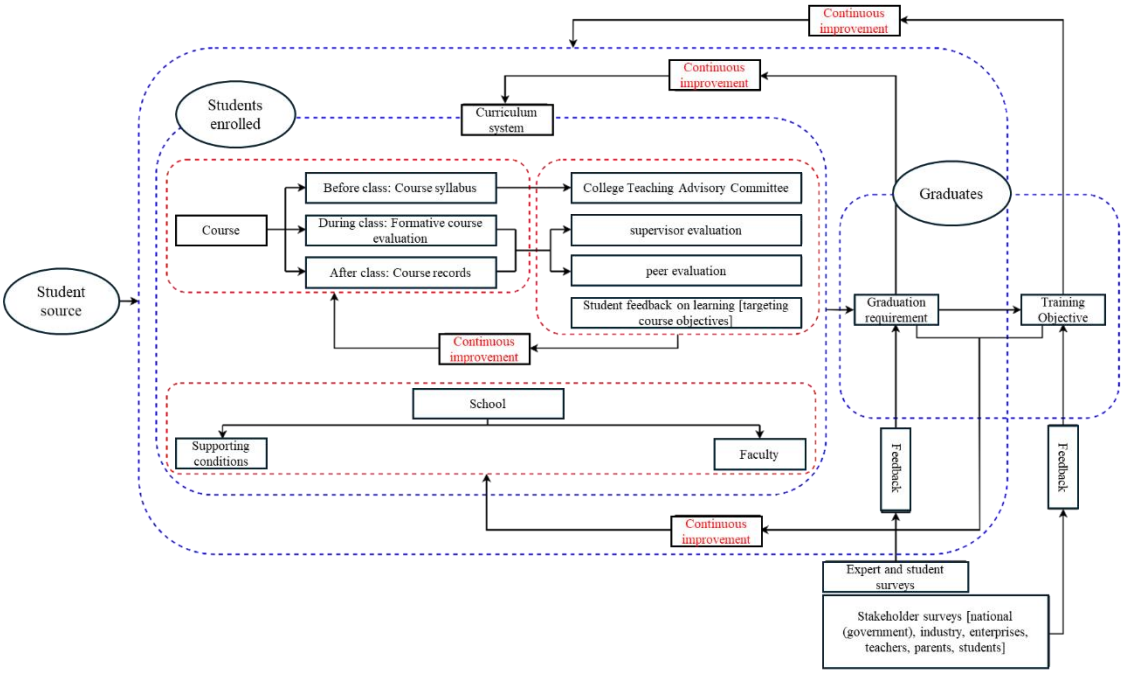

Figure 6.1 Quality Monitoring and Continuous Improvement Process Diagram

6.1.2 External Teaching Quality Evaluation

HNCU uses a feedback system from employers to gather their opinions. Each academic year, the program's teaching and research office uses opportunities such as student internships and graduation practice to visit companies and gather feedback from employers regarding interns and graduates. Each academic year, the teaching and research office conducts a comprehensive survey targeting graduating students, gathering feedback on their semester performance and learning expectations over the past four years. Approximately every two years, the teaching and research office organizes faculty visits to production enterprises and other universities to collect their opinions and suggestions, taking advantage of the revision of the talent development program. The information is summarized and used to improve the program's talent development plan and specific course offerings. Additionally, HNCU has introduced external supervision. For instance, HNCU participates in the undergraduate teaching evaluation for higher education institutions initiated by the Ministry of Education of China, forming a teaching quality evaluation mechanism that combines internal evaluation with external evaluation, involving the Ministry of Education's governing

body, employers, faculty, and students. Here, we define the roles of the Ministry of Education and employers as external evaluation, while the authority of teachers and students, as well as HNCU itself, are defined as internal evaluation. Based on practical results, we consider this evaluation method effective.

6.2 Tools, Methods, and Data

6.2.1 Student Enrollment and Graduation Rate

According to the regulations of Hunan City University, the normal study period for students is 4 years, with a maximum of 6 years. Students who do not graduate within 6 years will receive a certificate of attendance or be withdrawn from the university.

The start and end dates of the spring and fall semesters are generally the same each year, so the annual schedule is fixed. Table 6-1 lists the student enrollment and graduation numbers for the Civil Engineering program from 2020 to 2024, as well as the career destinations of its graduates. Table 6-2 provides detailed information on the initial graduation rate/cumulative graduation rate/initial degree acquisition rate/cumulative degree acquisition rate for 2022.

Table 6-1 Statistics on Graduate Career Destinations

Last 5 years	Class of 2020	Class of 2021	Class of 2022	Class of 2023	Class of 2024
Number of Students	336	329	366	380	307
Number of Graduates	318	308	335	361	289
Percentage of Graduates	94.64%	93.61%	91.53%	95%	94.13%
Employment Rate of Graduates	96.13%	95.44%	97.82%	99.47%	91.80%
Percentage of Graduates Continuing Education in China	8.30%	10.64%	12.54%	13.42%	18.62%
Percentage of Graduates Going Abroad for Further Education	0.60%	0	0.54%	0	1.38%
Percentage of Unemployed Graduates	3.87%	4.56%	2.18%	0.53%	8.20%

Table 6-2 Initial Graduation Rate/Cumulative Graduation Rate/Initial Degree Acquisition Rate/Cumulative Degree Acquisition Rate for 2022-2024

Last 3 years	Class of 2022	Class of 2023	Class of 2024
Number of Students	366	380	307
Number of Initial Graduates	316	345	273
Cumulative Number of Graduates	335	361	289

Number of Initial Degree Acquirers	316	345	273
Cumulative Number of Degree Acquirers	335	361	289
Initial Graduation Rate	86.34%	90.79%	88.92%
Cumulative Graduation Rate	91.53%	95%	94.13%
Initial Degree Acquisition Rate	86.34%	90.79%	88.92%
Cumulative Degree Acquisition Rate	91.53%	95%	94.13%

*Note: The initial graduation rate/initial degree acquisition rate reflects the graduation and degree acquisition rates for students within the 4-year study period, while the cumulative graduation rate/cumulative degree acquisition rate reflects the rates for students within the 6-year study period.

6.2.2 Student Evaluation

Each student must complete 232 ECTS (major credits) to graduate. The courses that students fail will be recorded. For students who fail, the school will offer a chance for retake. If they fail the retake, the school will provide an opportunity to retake the course. Students who do not complete 232 ECTS (major credits) will not be awarded a degree. A sample student transcript can be found in **Appendix E-2**. For disabled students who face learning challenges, our school has established facilities such as barrier-free restrooms and ramps to create an environment suitable for these students, providing conveniences for their learning and living.

6.2.3 Examination Evaluation and Continuous Statistics

After each course exam, teachers are required to submit students' exam results and conduct an analysis of the course teaching. Based on the analysis results, they should provide feasible suggestions for continuous improvement to enhance teaching quality and student learning outcomes. If a student does not pass the course exam, a dedicated professional teacher will be arranged to tutor the student to help them pass the retake. If the retake is also unsuccessful, the student will retake the course with the next cohort. Table 6-3 shows the pass rates for the core courses with an "Application Ability Objective" in the Civil Engineering program in 2023.

Table 6-3 Pass Rates for Core Courses with "Application Objective" in Civil Engineering Program, 2023

Serial Number	Ability Domain	Course Code	Course Name	Credits	Contact Hours	Type	Exam Pass Rate
1	Engineering Application	9031113011	Engineering Project Management	1.0	16	Examination	94.3%
2	Engineering	9031113031	Construction Principles and Methods	3.5	56	Examination	85.7%

	Application							
3	Engineering Application	9031112021	Engineering Structure Load and Reliability Theory		1.5	24	Examination	98.6%
4	Engineering Application	9032113041	Road and Bridge	Bridge and Culvert Hydrology	1.5	24	Examination	92.3%
5	Engineering Application	9032113021		Road Survey and Design	2.5	40	Examination	98.7%
6	Engineering Application	9032113031		Subgrade and Pavement Engineering	3.0	48	Examination	96.8%
7	Engineering Application	9032113051		Bridge Engineering	6.0	96	Examination	92.1%
8	Engineering Application	9032113081		Road and Bridge Engineering Construction Technology	2	32	Examination	100%
9	Engineering Application	9032113091		Road and Bridge Engineering Budgeting	1.5	24	Examination Review	99.5%
10	Engineering Application	9031113051	Construction Engineering	High-rise Building Structures	2.0	32	Examination	91.3%
11	Engineering Application	9031113071		Steel Structure Design	3.0	48	Examination	82.8%
12	Engineering Application	9031113091		Concrete Structure Design	3.5	56	Examination	82.6%
13	Engineering Application	9031114100		Prefabricated Buildings	1.5	24	Examination Review	100%
14	Engineering Application	9035113041		Building Engineering Budgeting	1.5	24	Examination	99.5%
15	Engineering Application	9031113051		Building Engineering Construction	2.0	32	Examination	98.5%
16	Engineering Application	9033113011	Urban Rail Transit	Urban Rail Transit Network Planning and Route Design	3	48	Examination	96.7%
17	Engineering Application	9033113021		Track Engineering	2	32	Examination	94.3%
18	Engineering Application	9036113061		Tunnel and Underground Engineering	2.5	40	Examination	88.6%
19	Engineering Application	9033113041		Urban Rail Transit Stations	2	32	Examination	96.3%
20	Engineering Application	9033113061		Urban Rail Transit Engineering Budgeting	1.5	24	Examination	98.6%
21	Engineering Application	9033113071		Road and Railway Engineering Construction Technology	2	32	Examination	100%

6.2.4 Student Evaluation of Teaching Quality

Student evaluation of teaching quality is a key component of the teaching evaluation system. At the end of each term, every student must submit an online "Teacher Teaching Quality Evaluation Form" and "Course Questionnaire Form" in order to view their grades. The teaching suggestions listed in the evaluation forms will be analyzed and used to improve teaching methods. Student evaluations of teaching will also be used to assess teachers' teaching effectiveness and are linked to their job performance. The course target questionnaire reflecting teaching conditions can be found in **Appendix E-3**.

7 Quality Assurance and Transparency

7.1 Course Module Description

HNCU provides a comprehensive and efficient personal management system for all functional leaders, faculty members, and students, aiming to facilitate interconnectedness in work scheduling, processing, modification, and information publication. This system offers rich and highly targeted functional modules based on the different user roles. Faculty, students, and college administrators can achieve seamless communication and feedback through the system. This interactive mechanism ensures the effective transmission of opinions among all parties, promoting internal information flow and decision optimization within HNCU.

For faculty, the system not only supports class schedule retrieval and student roster viewing but also allows faculty to enter student grades, manage capstone projects, and possesses practical functions such as class rescheduling. These tools significantly simplify routine teaching management tasks, aiding faculty in focusing more on enhancing education quality. Student users can retrieve their schedules and grades through the system while also participating in the management of their capstone projects. This design not only facilitates students in timely understanding of their academic status but also provides strong support for their academic planning.

Users can effortlessly access the personal management system through the "Portal Entry" in the top navigation bar of the college's official website homepage. The official website interface is shown in Figure 7.1. The portal login interface is shown in Figure 7.2.

Figure 7.1 College Official Website Interface

Figure 7.2 Portal Login Interface

The portal login interface is intuitively designed and user-friendly, setting a benchmark for usability. On the unified identity authentication platform, users need to input accurate account numbers and passwords (where a student account number is their student ID and a faculty account number is their employee ID) and complete SMS verification to ensure account security. Additionally, the system supports a more convenient and secure QR code login option, further enhancing user experience.

For users who may encounter login difficulties, the page provides a "Forgot Password" feature, detailing steps to retrieve account information, ensuring that every user can smoothly resolve access issues. This thoughtful series of designs not only reflects attention to user needs but also demonstrates the college's commitment to providing efficient, secure, and convenient online service.

7.1.1 Faculty Personal Management System

The interface seen by faculty upon successful login is shown in Figure 7.3.

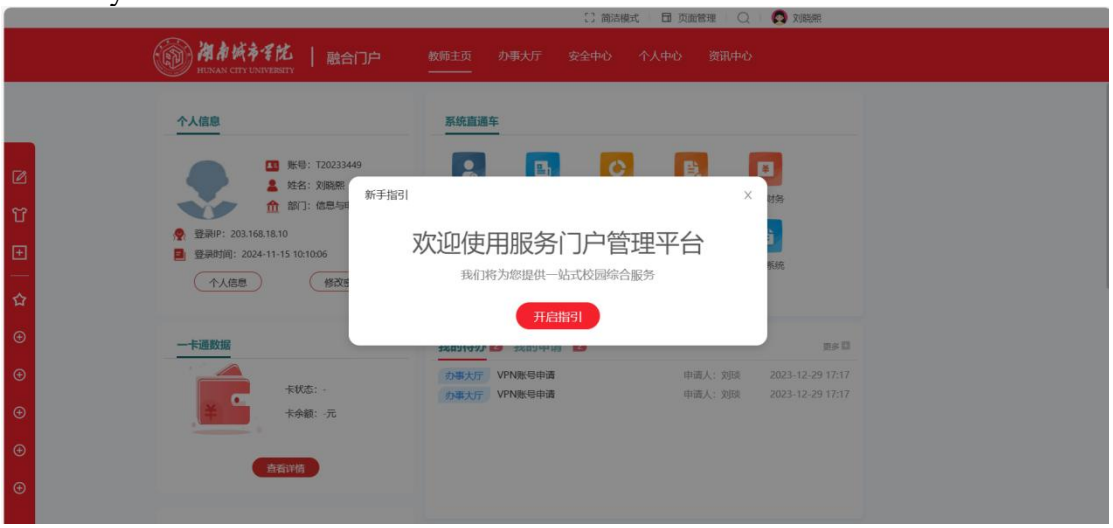

Figure 7.3 New User Guide Interface

The first thing to catch the eye is a meticulously designed new user guide functionality, which undoubtedly greatly benefits first-time users. After completing the new user guide, faculty will enter the main interface as shown in Figure 7.4.

Figure 7.4 Faculty Personal Interface

The "System Express" function in the center of the interface provides quick shortcuts to key modules like the Academic Affairs System and Practical Teaching. Through the Academic Affairs System, faculty can not only retrieve various teaching-related data and information but can also perform a series of operations and management; while in the Practical Teaching module, they can conveniently handle matters related to capstone projects, greatly simplifying workflows, improving work efficiency, and fully demonstrating the college's relentless pursuit of enhancing teaching quality and service level. The Academic Affairs System interface is shown in Figure 7.5. The practical teaching interface is shown in Figure 7.6. The Graduation Comprehensive Training Management System is shown in Figure 7.7.

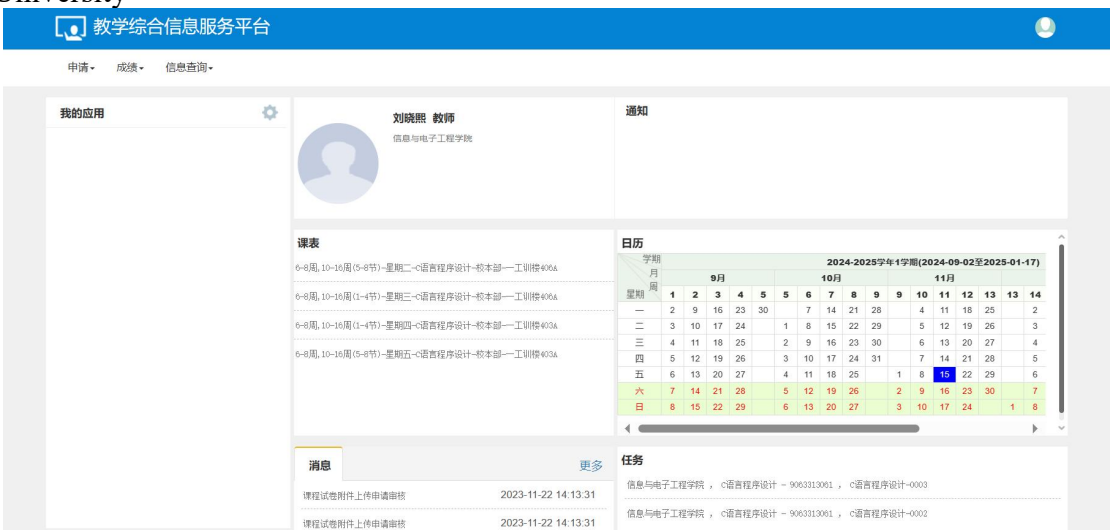

Figure 7.5 Academic Affairs System Interface

Figure 7.6 Practical Teaching Interface

Figure 7.7 Graduation Comprehensive Training Management System

7.1.2 Student Personal Management System

The interface displayed upon successful student login is shown in Figure 7.8. The student personal interface is designed with a high degree of user-friendliness, aiming to deliver a convenient and efficient service experience for each student. This interface is divided into two main modules: the Personal Service Window and the System Express Window. Through these two meticulously crafted windows, not only is the interaction between students and HNCU enhanced, but student satisfaction and campus life quality are also significantly improved.

The Personal Service Window integrates a range of functions closely related to students, such as exam information (see Figure 7.9), grade inquiries (see Figure 7.10), and academic progress status (see Figure 7.11). The aim is to enable students to manage their academic life easily and stay informed about their academic progress. The System Express Window is more focused on providing quick access to university resources and services, such as the Academic Affairs System (see Figure 7.12) and the Practical Teaching System (see Figure 7.13). This allows students to quickly obtain necessary information or complete specific tasks, greatly enhancing efficiency and campus convenience.

Figure 7.8 Student Personal Interface

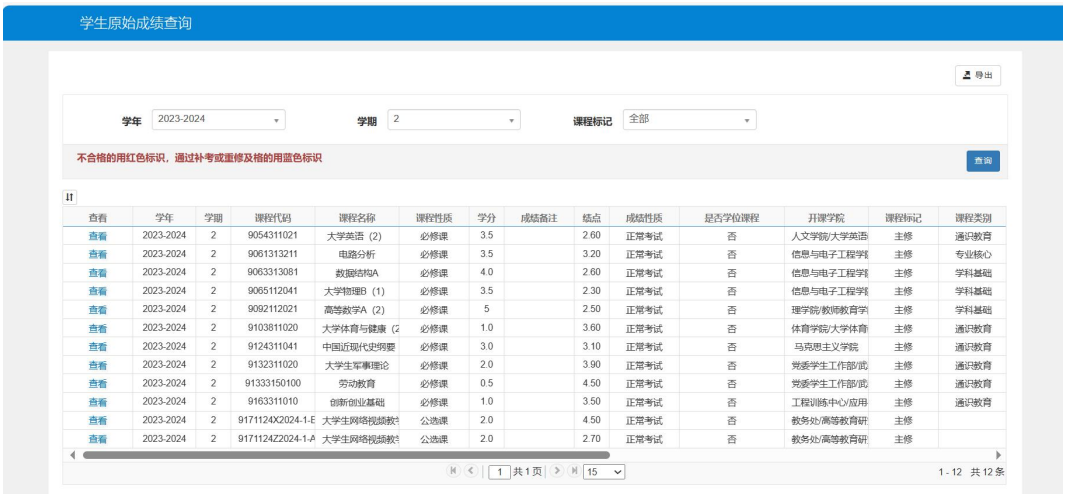

Figure 7.9 Exam Information Query Interface

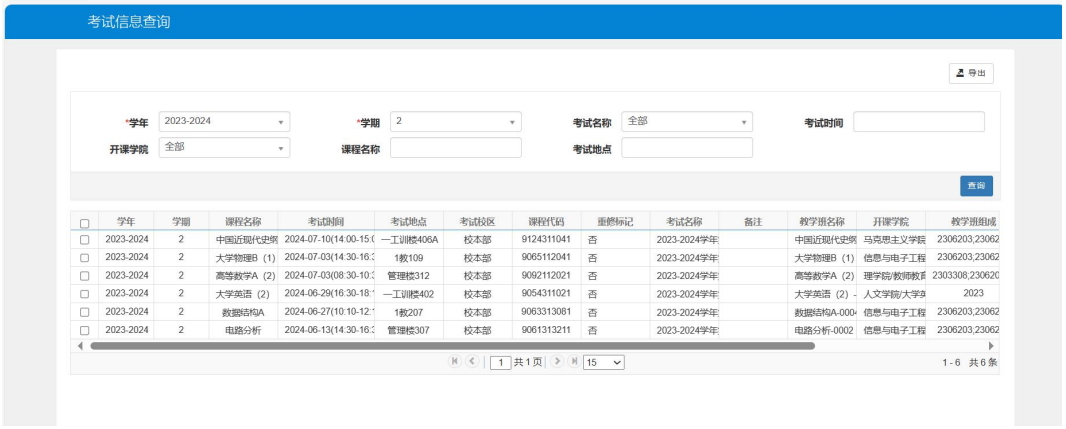

Figure 7.10 Student Grade Inquiry Interface

Figure 7.11 Academic Progress Query Interface

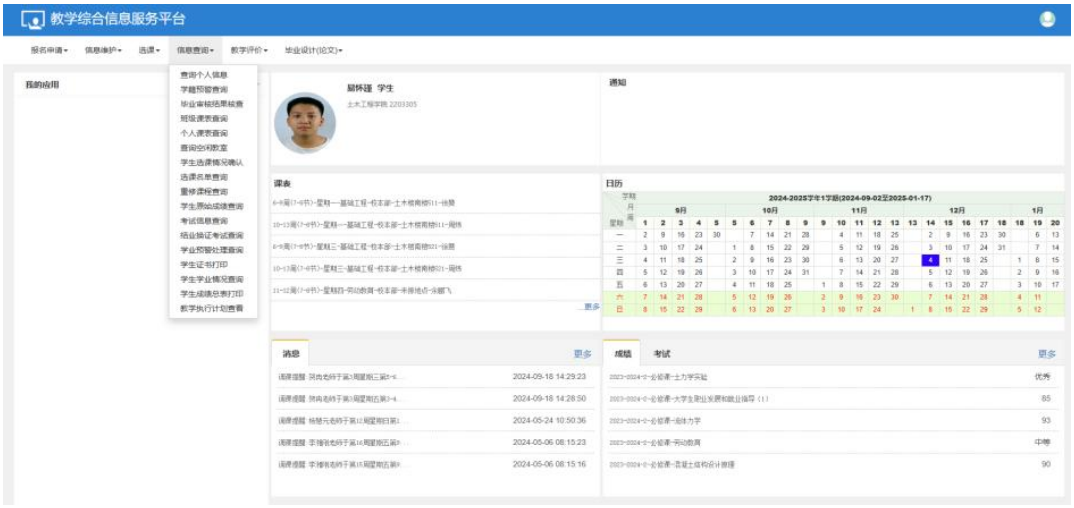

Figure 7.12 Student Academic Affairs System Interface

Figure 7.13 Student Practical Teaching Interface

7.2 Relevant Regulations

7.2.1 Teaching Evaluation System

In terms of teaching, the College of Civil Engineering at Hunan City University strictly follows the *Implementation Opinions on Further Strengthening the Construction of the Teaching Management Team of Hunan City University* (see **Appendix F-1**) to review the qualifications of instructors. Instructors must prepare course content according to the basic standards for lesson plans and lecture notes. The college abides by the *Detailed Guidelines for Classroom Teaching Conduct of Hunan City University*, the *Implementation Regulations of the Student Teaching Information Officer System of Hunan City University*, the *Working Procedures of the Teaching Advisory Committee of Hunan City University*, the *Recognition and Handling Measures for Teaching Incidents and Faults of Hunan City University*, the *Classroom Teaching Observation Management Measures of Hunan City University*, the *Calculation and Management Measures for Teaching Workload of Hunan City University*, and the *Implementation Measures for*

Undergraduate Education Teaching Quality Evaluation and Continuous Improvement of Hunan City University (Trial) and other related regulations to manage and evaluate the teaching process. See **Appendix F-1** for details.

The school's Academic Affairs Office periodically evaluates the teaching of each course to understand the overall performance of teachers during the teaching process. This includes peer reviews, student evaluations, and supervisory evaluations (i.e., three-party evaluations). See **Appendix F-2** for details. Student evaluation forms are collected and compiled by the school's Academic Affairs Office, submitted to the respective colleges, and notified to the relevant course instructors.

7.2.2 Student Academic Assessment

Since 2020, the admission score line for the Civil Engineering program at Hunan City University has consistently been higher than the undergraduate threshold standard of the National College Entrance Examination (Gaokao) in China. For relevant information and the admission situation over the past five years, please refer to **Appendix F-3**. The College of Civil Engineering strictly follows the relevant regulations of the Ministry of Education, the Hunan Provincial Department of Education, and the Hunan Provincial Examination Authority in the enrollment process and has established a dedicated admissions leadership team responsible for all admission matters. For detailed information regarding the admission policies, publicity, supervision implementation rules, examination discipline, and conflict-of-interest system of Hunan City University, please refer to **Appendix F-3**.

7.2.3 Further Development and Continuous Improvement

To meet the demands of the job market and technological development, the College of Civil Engineering at Hunan City University places high importance on the continuous development of the program. The college continually explores innovation and has introduced a series of supporting management systems to meet the rapidly changing needs of the industry. To this end, Hunan City University has established a dedicated graduate tracking information system aimed at collecting and analyzing feedback from graduates to understand their performance and development in the workplace. Additionally, the college organizes graduate forums every year during the university’s anniversary celebrations, providing a platform for communication with alumni, facilitating the continuous improvement of the curriculum, and enhancing teaching quality.

Considering the potential language barriers faced by some international students or non-native Chinese speakers, the College of Civil Engineering will further enhance the

bilingual teaching abilities of professional faculty, increase the number of bilingual courses, and strengthen Chinese language training for students coming to study in China. This will help them quickly adapt to campus life and the learning environment at Hunan City University, ensuring that every student receives a high-quality educational experience.

7.3 Diploma Supplement and Certificates

Appendix F-4 provides samples of the graduation certificate and bachelor's degree certificate for graduates of the Civil Engineering program at Hunan City University. All certificates become valid only after being stamped with the official seal of Hunan City University and signed by the president. **Appendix F-5** contains a sample of the diploma supplement, while **Appendix E-3** is a sample of the student transcript.