

## Appendix D-5 List of laboratory management policy documents

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2	Safety management code for hazardous chemicals in laboratories of ordinary colleges and universities	2019.11	Laboratory management
3	Laboratory Work Regulations of Hunan City College	2024.0 9	Laboratory management
4	Hunan City College Undergraduate Experimental Teaching Management Measures	2024.0 9	Laboratory teaching
5	Student experiment code of information and electronic engineering college		Laboratory teaching
6	Information and Electronic Engineering College instrument equipment management system		Laboratory management
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# Laboratory safety management measures of Hunan City College

Xiangcheng Institute [2024] No.55

## Chapter I General Provisions

Article 1 The laboratory is an important venue for experimental teaching and scientific research at the school. To effectively strengthen laboratory safety management and ensure the personal and property safety of the school, faculty, staff, and students, and to maintain the order of teaching and research work, this regulation is formulated in accordance with the "Safety Standards for Laboratories in Higher Education Institutions" (Letter No.5 [2023] from the Ministry of Education, Science, and Information Technology), the "Regulations on Fire Safety Management in Higher Education Institutions" (Ministry of Education and Ministry of Public Security Order No.28), and the "Regulations on the Safety Management of Hazardous Chemicals" (State Council Order No.591), taking into account the actual conditions of the school.

Article 2 The laboratory in this method refers to all the places and facilities engaged in teaching, scientific research and other experimental and practical activities of the university.

Article 3 In accordance with the requirements of "equal responsibility of the Party and government, dual responsibility for one post, joint management, and accountability for dereliction of duty," under the unified leadership of the school, a three-level laboratory safety management responsibility system linking the school, secondary units, and laboratories shall be established. According to the principle of "whoever uses, whoever is responsible; whoever supervises, whoever is responsible," responsibilities shall be implemented at all levels. The principal leaders of the schools Party and government are the primary persons responsible for the schools safety work. The school leaders in charge of laboratory affairs assist the primary person responsible in overseeing laboratory safety and are important leaders responsible for laboratory safety. Other school leaders are responsible for supervising, inspecting, guiding, and managing laboratory safety within their respective areas of responsibility. The Party and government leaders of secondary units of the school are the principal leaders responsible for laboratory safety within their units. The heads of the schools laboratories are the direct persons responsible for the safety of their respective laboratories.

## Chapter 2 Laboratory safety management system and responsibilities

Article 4 The school establishes a Laboratory Safety Committee whose main responsibilities are: to fully implement national and provincial laws, regulations, and policies concerning laboratory safety; to implement the work deployments of higher authorities regarding laboratory safety; to be responsible for supervising the safety management of laboratories throughout the school; to review the schools laboratory safety management rules and regulations, supervise their implementation and enforcement; to study and propose plans for laboratory safety facility construction and funding allocation, coordinate and guide relevant departments in implementing these tasks; to monitor the progress of laboratory safety work in various units, identify existing issues, and ensure their rectification; to be responsible for investigating and handling laboratory emergencies; and to handle other matters related to laboratory safety that require review.

Article 5 The Academic Affairs Office is the primary functional department responsible for laboratory technical safety at the school. Under the guidance of the School Laboratory Safety Committee, it organizes and conducts laboratory safety management activities across the school. Its main responsibilities include: formulating school laboratory safety regulations and implementing relevant documents and work deployments from higher authorities; organizing technical safety education and training to promote the laboratory safety access system; guiding and inspecting relevant units in their laboratory safety management; supervising the standardized management and disposal of experimental waste by relevant units; strengthening the entire process supervision of the procurement, use, storage, and disposal of hazardous chemicals and precursor drugs; organizing and participating in laboratory safety inspections to ensure the rectification of potential safety hazards.

Article 6 The Department of Security is the functional department responsible for school safety, fully supervising and guiding the safety management work of school laboratories. Its main responsibilities are: to be in charge of daily safety management in terms of laboratory fire prevention and technical prevention; to reasonably configure fire protection facilities and equipment within the laboratory and its building, and supervise the normal operation of security facilities and surveillance systems; to handle the approval and reporting management of procurement applications for easily convertible drugs, explosives, and hazardous chemicals from secondary units laboratories; and to organize and implement emergency response measures for sudden safety incidents in laboratories.

Article 7: The Research Department is the planning department for the construction of research laboratories responsible for ensuring the safety management of scientific research platforms and key laboratories. Its main responsibilities include: conducting safety risk assessments for the construction renovation and expansion of new and existing scientific research platforms and key laboratories; performing risk assessments for scientific research projects to identify potential safety hazards and corresponding measures; and ensuring the conduct of safety inspections and rectification of potential hazards in scientific research platforms and key laboratories.

Article 8: The party and government leaders of each secondary unit are the primary persons responsible for laboratory safety within their units, fully responsible for the laboratory safety work of their units. Their main responsibilities include: organizing the establishment of a laboratory safety working group within their units, formulating laboratory safety plans and implementing them; establishing and improving the laboratory safety responsibility system and regulations (including various rules and regulations, operating procedures, emergency response plans, etc.), organizing, coordinating, and urging subordinate units to do a good job in laboratory safety; conducting routine inspections of laboratory safety within their units, organizing the implementation of rectification work, organizing laboratory safety education and training, and emergency drills, etc.

Article 9: The head of each laboratory is the direct person responsible for laboratory safety within their unit, and their responsibilities include: being in charge of safety management and the establishment of safety regulations (including operating procedures, emergency response plans, etc.) in the laboratory, establishing inventory records for items within the laboratory (including equipment, reagents, chemicals, highly toxic substances, gas cylinders, etc.), specifying the specific safety officers for each experimental room and instrument in the laboratory, conducting regular safety inspections; providing safety education and training to all personnel entering the laboratory on basic safety knowledge, operation of instruments and equipment, experimental procedures, protection measures, and handling of accidents, and guiding the conduct of hazardous experiments.

### Chapter 3 Main contents of laboratory safety management

#### Article 10 Laboratory access system

(1) Establish a laboratory access system. Each secondary unit must strengthen safety education for faculty, students, staff, and outsiders based on the characteristics of their discipline and laboratory; only those who pass the laboratory safety education assessment are allowed to enter the laboratory for study or work; each unit should assign dedicated personnel to ensure the implementation of the safety access system, strictly limiting students who have not participated in or failed the assessment from entering the laboratory to conduct experiments.

(2) Establish a safety review mechanism for laboratory experimental projects. Each secondary unit shall conduct reviews of experimental projects that pose safety hazards, especially those involving toxic and hazardous chemicals, radioactive sources and radiation devices, dangerous mechanical processing equipment, high-pressure vessels, and other various hazardous sources. Research projects that have not been reviewed shall not proceed to the experimental stage.

(3) Establish a safety review mechanism for laboratory construction and renovation projects. When units apply for or approve the construction, expansion, or renovation of experimental sites or facilities, they should establish a safety review mechanism, fully considering safety factors, enhancing communication between laboratory users, designers, and constructors, widely soliciting opinions, and strictly adhering to national standards and environmental protection requirements in design and construction; after the project is completed, it must undergo

safety acceptance and relevant handover procedures, with the management and maintenance units clearly defined before it can be put into use.

#### Article 11 Safety management of hazardous chemicals

Hazardous chemicals refer to explosive materials, compressed gases and liquefied gases, flammable liquids, flammable solids, moisture-reactive flammable items, oxidizers and organic peroxides, toxic substances, and corrosive substances as stipulated by national standards. All units must strengthen safety supervision and management of all aspects involving hazardous chemicals in teaching, experiments, research, and activities according to national laws and regulations, including the processes of purchasing, transporting, storing, using, producing, and destroying, with particular emphasis on managing gas cylinders, highly toxic substances, flammable and explosive items, precursor drugs for drug manufacturing, and explosive precursors.

#### Article 12 Safety management of experimental waste

Laboratories generating waste must properly package and label the waste, and all units must comply with national laws and regulations as well as relevant school rules to contact units with legal disposal qualifications for centralized destruction. It is strictly prohibited to pour waste into sewers or mix it with household garbage. When constructing new or renovating laboratories, the treatment plans for hazardous substances and toxic gases should be included in the construction engineering plan and integrated into the overall planning and design.

#### Article 13 Biosafety management

Biological safety mainly involves the safety of pathogenic microorganisms, experimental animals, and genetically modified organisms. All units must comply with national laws and regulations as well as relevant school rules to standardize the procurement of biochemical reagents and supplies, experimental operations, waste disposal, and other procedures, strengthen the management of biological laboratory safety, assign responsibilities to individuals, enhance the construction, management, and registration of biosafety laboratories, and obtain the corresponding qualifications.

#### Article 14 Radiation safety management

Radiation safety mainly includes the safety of radioactive isotopes (sealed radioactive sources and non-sealed radioactive materials) and radiation devices; all units involving radiation must comply with national regulations and relevant school rules, and can only carry out related work after obtaining the "Radiation Safety Permit" issued by the environmental protection department. Strengthen the management of procurement, storage, use, and registration of radiation devices and radioactive sources, standardize the disposal of radioactive waste; radioactive laboratories must have dedicated safety managers responsible for the laboratory's radiation safety, and radioactive workplaces must establish strict management systems and detailed operating procedures for instruments and equipment, with safety measures to prevent misoperation and accidental exposure of personnel and the public; radioactive laboratories must develop nuclear and radiation safety emergency response plans, and if there is a loss of radioactive isotopes, accidental exposure of personnel or the public, the emergency response plan must be immediately activated for handling; enhance the construction of safety and warning facilities in radiation-involved areas.

#### Article 15 Safety management of instruments and equipment

(1) All units shall strengthen the management of instruments and equipment designate specific personnel to be responsible for maintenance and upkeep; promptly repair malfunctioning instruments and equipment keep records of maintenance, upkeep, and repairs; ensure grounding safety for precision instruments, high-power or strong electrical instruments and take stringent safety precautions; particularly strengthen the management of instruments and equipment with potential hazards such as refrigerators, high-temperature heating, high-pressure, high-radiation, and high-speed rotation; promptly decommission equipment that has reached its service life and poses potential safety hazards to eliminate safety risks.

(2) All units should strengthen the professional and safety training of instrument and equipment operators strictly adhere to the operating procedures for experimental teaching and research work before starting the machines a practical and feasible experimental plan must be formulated and all necessary preparations made During operation strictly follow the operating procedures no one is allowed to leave their post after turning on the machine

instruments must not be left unattended after use conduct a thorough safety inspection of the instruments Certain special instruments and positions as stipulated by the state require a certification system for employment.

(3) For self-made and self-researched equipment, safety factors should be fully considered, and the design and manufacturing should be carried out in strict accordance with the design specifications and relevant national standards to prevent the occurrence of safety accidents.

(4) Special Equipment Safety Management. Special equipment refers to instruments and equipment such as boilers, pressure vessels, and lifting machinery that are recognized by administrative regulations as involving life safety and posing significant hazards; user units shall not design, manufacture, or use self-made special equipment, nor shall they arbitrarily modify or repair existing special equipment; after the purchase and installation of special equipment, it must be inspected by the national special equipment inspection department, registered for use, and obtain a special equipment use registration certificate before it can be officially used; user units should establish dedicated (or part-time) safety management personnel based on the usage status of the special equipment, responsible for organizing, registering, and properly storing accompanying documents and materials, establishing safety technical files; organizing the installation, maintenance, and regular inspection and testing of the equipment; personnel using special equipment must obtain a special equipment operator qualification certificate and a safety management personnel certificate before they can engage in corresponding work.

#### Article 16 Safety management of water, electricity and gas

(1) Laboratory water, electricity, and gas facilities must be installed in accordance with relevant regulations and standards; no unauthorized disassembly or modification of wiring is allowed, and the connection of temporary lines is strictly prohibited. Regular inspections of water sources, power sources, gas sources, and fire sources in the laboratory must be conducted, inspection records must be kept, and any identified hazards must be addressed promptly.

(2) Air switches should be used in the laboratory and equipped with necessary residual current devices; the use of switchboards, wooden electrical panels, and flower wires is strictly prohibited; electrical equipment should be equipped with sufficient power consumption and electrical wires, and have good grounding; potential hazards such as aging wires should be regularly inspected and promptly addressed. Laboratory renovation, transformation, and daily management must comply with the schools relevant electrical regulations to ensure electrical safety.

(3) When using high voltage power supply and electric heating appliances, they should be used strictly in accordance with the operating procedures and safety precautions should be taken. Violations of the use of electric heating appliances are strictly prohibited in the laboratory.

(4) Air conditioning, computer and other experimental equipment shall not be turned on overnight without anyone. If it is necessary for work, personnel inspection and monitoring shall be strengthened, and necessary safety protection measures shall be taken.

(5) Chemical laboratories shall not use open flame electric stoves. If it is really necessary for work and cannot be replaced by other heating equipment, they may be approved by the main person in charge of laboratory safety work of the unit after taking safety precautions, and a special person shall be arranged to be responsible on site.

(6) The laboratory should eliminate the phenomenon of no one supervising when the tap is opened, and regularly check the upper and lower water pipes, rubber pipes of chemical cooling condensation system, etc., to avoid safety accidents caused by aging and blocking of pipelines.

#### Article 17 Management of safety facilities

Laboratories with potential safety hazards must be equipped with fire protection equipment (such as fire extinguishers, fire hydrants, fire doors, fire barriers, or fire curtains), smoke alarm systems, monitoring systems, emergency showers, eye wash stations, hazardous gas alarms, ventilation systems (with the addition of absorption systems if necessary), protective covers, and warning isolation facilities. Strengthen the management of laboratory safety facilities, earnestly carry out updates, maintenance, and inspections, keep relevant records, and ensure their proper functioning and effectiveness.

#### Article 18 Laboratory management

(1) Each laboratory room must have a person responsible for safety. All units must place the laboratory safety

information sign containing the name of the laboratory, the person in charge and the effective contact number in a conspicuous position for inspection and contact.

(2) All units must arrange special personnel to be responsible for the distribution and management of laboratory keys, and must not privately configure keys or lend them to others; for buildings and laboratories using electronic access control, corresponding permissions must be set for all kinds of personnel.

(3) Equip with necessary labor protection and protective equipment as required to ensure the safety and health of laboratory personnel. Hazardous experiments must be conducted by at least two people, and laboratory personnel must take protective measures such as eye and body protection, and wear appropriate protective equipment during the experiment; hazardous experiments must be completed in fume hoods as required. The instructor must explain the operating procedures and safety precautions, and laboratory personnel must not leave the site without permission.

(4) Smoking, cooking, drinking and eating are strictly prohibited in the laboratory. Unrelated personnel are strictly prohibited from entering the laboratory. No one is allowed to stay in the laboratory without experimental requirements. If overnight experiments are needed for work, two or more people must be arranged to operate the experiment. The application must be submitted in advance and approved by the secondary unit.

(5) When the experiment is over or when leaving the laboratory, the instruments and equipment, power supply (if it is really necessary to close the door due to special needs, safety precautions must be taken), water source, gas source, doors and Windows must be closed. The duty personnel shall be responsible for inspection. It is strictly prohibited to leave the post during the experiment.

(6) Establish a hygiene duty system maintain cleanliness and tidiness ensure the rational layout of instruments and equipment do not pile up miscellaneous items in the laboratory properly handle experimental materials residual substances and waste promptly remove garbage from indoors and outdoors maintain good environmental hygiene conditions and ventilation to prevent disease transmission.

(7) The laboratory must properly manage safety facilities, fire fighting equipment and anti-theft devices, and conduct regular inspections; fire fighting equipment shall not be transferred for other use, and no debris shall be piled up around to keep the fire fighting passage open.

(8) The laboratory shall clarify the safety responsibility when undertaking off-campus teaching, scientific research and other experimental tasks.

#### Chapter IV Laboratory safety inspection and rectification

##### Article 19 Strengthen laboratory safety and health inspection

(1) Establish a three-level safety and health inspection system at school, secondary units and laboratories, and carry out regular or irregular inspections and supervision. Each inspection should have inspection records, identify the problems and hidden dangers found, clarify the responsibilities and actively rectify them.

(2) The Academic Affairs Office coordinates with relevant functional departments to regularly organize comprehensive safety inspections of laboratories across the university and special safety checks on various types of safety issues, conducting irregular laboratory safety spot checks, and the inspected units must actively cooperate. For laboratories that violate national laws and regulations, school rules and regulations, or pose serious safety hazards, the Academic Affairs Office, together with the Security Department, issues a "Rectification Notice" requiring timely rectification. For laboratories that fail to rectify or have serious issues, they will be reported to the University Laboratory Safety Committee.

(3) Each secondary college should establish a safety inspection team for their unit, clearly defining the safety responsibility person for each laboratory; regularly organize safety and hygiene inspections for laboratories within the unit, establish a laboratory safety and hygiene management inspection ledger, and document the inspection results for each session; the laboratory responsibility person must implement the daily safety and hygiene inspection system, ensuring that daily patrols and inspections of laboratory safety and hygiene conditions are conducted, and promptly notify the laboratory director or safety management personnel to take measures and make corrections if potential safety hazards are identified during inspections.

#### Article 20 Rectification of safety hazards

Upon discovering potential safety hazards in the laboratory, timely measures must be taken to rectify them. For serious safety hazards or those that cannot be immediately resolved, a written report must be submitted to the respective unit, the Safety and Stability Department, and the Academic Affairs Office, and active measures must be taken to rectify them. No unit or individual shall conceal or delay reporting of safety hazards.

### Chapter V Accident handling and rewards and punishments

Article 21 In case of laboratory safety accidents, all units shall take effective emergency measures in time to prevent the situation from expanding or spreading, and organize personnel to evacuate safely at the first time; the main leaders and divisional leaders in charge of laboratory safety in the unit shall go to the scene at the first time to organize effective disposal.

Article 22 In case of major accidents such as fire, poisoning, serious personal injury and theft, laboratory staff shall protect the accident site and immediately report to the unit level by level. No unit or individual shall conceal or delay the reporting, and shall actively cooperate with the investigation and handling.

Article 23: The school shall promptly ascertain the causes of laboratory accidents, clarify responsibilities, and propose handling opinions. For cases where responsibilities are unclear, the direct person in charge of the laboratory will be held accountable. For incidents causing serious consequences and social impact, the perpetrators, supervisors, and leaders will be held responsible; depending on the severity of the situation and the responsible persons attitude towards their mistake, they will be subject to criticism and education, economic compensation, administrative sanctions; if laws are violated, the case will be referred to judicial authorities for legal handling.

Article 24 If a student violates the relevant regulations on laboratory safety and causes serious consequences by ignoring the safety of life and property, the university shall impose corresponding disciplinary sanctions in accordance with the regulations on disciplinary sanctions for students. If it is a serious illegal act, it shall be handed over to the judicial department for legal handling.

Article 25: For units and individuals who have made outstanding contributions to laboratory safety management, the university will grant commendation and rewards: those who discover major accident hazards and actively take measures to remedy and eliminate dangers to prevent casualties or avoid significant losses to state property; those who, when an accident occurs, make every effort to save lives and protect state property.

### Chapter VI Supplementary Provisions

Article 26 Each unit shall formulate corresponding implementation rules or management regulations for its own unit based on this method and in combination with actual circumstances. Matters not covered in this method shall be governed by relevant national laws and regulations. In case of conflict between the provisions of this method and the laws and regulations promulgated by the state, the national laws and regulations shall prevail.

Article 27 These Measures shall come into force on the date of promulgation and shall be interpreted by the Office of Academic Affairs. The original Laboratory Safety Management Measures of Hunan City University (Xiangchengyuan Fa [2018] No.54) shall be repealed at the same time.

# Laboratory Work Regulations of Hunan City College

Xiangcheng Institute [2024] No.56

## Chapter I General Provisions

Article 1 The laboratory is an important base for teaching, scientific research, and technological services, and it is a fundamental condition for running a school. To strengthen the construction and management of laboratories in our university and improve teaching, scientific research, and management levels, this regulation is formulated in accordance with the "Regulations on Laboratory Work in Higher Education Institutions" issued by the Ministry of Education and in combination with the actual conditions of our university.

Article 2 The laboratory must implement the national education policy in its work, ensure the completion of experimental teaching tasks and constantly improve the level of experimental teaching.

Article 3 All departments shall attach importance to the construction and management of laboratories, care about the work of laboratory staff, establish a team of high-quality, reasonable structure and relatively stable laboratory staff, and mobilize the enthusiasm of laboratory personnel.

Article 4 Laboratory staff (including teachers, experimental technicians, managers, etc.) should establish the idea of serving teaching and scientific research wholeheartedly, strive to study their business, and conscientiously complete the tasks they undertake.

## Chapter II Duties

Article 5 In accordance with the development plan for education, formulate short-term and long-term construction plans for laboratories.

Article 6 According to the training program and the teaching outline of the course, participate in the formulation of the experimental teaching outline under the organization of the relevant secondary teaching units, participate in the writing of the experimental textbook or experimental guidebook, undertake the preparation and opening of the experimental course, and ensure the completion of the experimental teaching tasks.

Article 7 Students shall be trained in basic experimental skills, so that they can master scientific experimental methods, cultivate a serious scientific attitude and style, and improve their ability to observe, analyze and solve problems independently.

Article 8 Educate students to abide by the rules and regulations of the laboratory and the operation procedures of the equipment, and do a good job in teaching with strict requirements, patient teaching, leading by example and educating students.

Article 9 Continuously update and add experimental projects, improve the proportion of design, comprehensive and research experiments. Gradually improve the degree of openness of laboratories.

Article 10 The laboratory shall actively carry out the reform of experimental teaching, pay attention to the research of experimental technology and the development of modern instruments and equipment, regularly inspect and repair the instruments and equipment to ensure their normal use. The laboratory shall ensure the accuracy of experimental data and the reliability of experimental results.

Article 11 The laboratory shall, under the premise of ensuring the completion of teaching and scientific research tasks, actively create conditions to open to teachers and students.

## Chapter III Management

Article 12 The laboratory operates under a two-level management system consisting of the university and secondary teaching units. The university establishes a Laboratory Work Committee to lead the construction and management of laboratories across the university. The Laboratory Work Committee is headed by the Vice President in charge of laboratory affairs, with members comprising senior experts, heads of secondary teaching units, and responsible persons from departments such as academic affairs, research, finance, and assets. The Academic Affairs Office, under the leadership of the Laboratory Work Committee, is responsible for managing laboratories across the university. Secondary teaching units primarily manage their affiliated laboratories, with designated leaders

responsible for the specific operations of their respective laboratories.

Article 13 In accordance with the needs of school development, secondary teaching units shall formulate plans and carry out laboratory construction in a focused and step-by-step manner. The establishment of laboratories shall meet the following basic conditions:

1. Have a stable direction of academic development and full experimental teaching, scientific research or technical development tasks;
2. Have houses, facilities and environment that meet the requirements of experimental technology work;
3. There are sufficient sets of instruments and equipment;
4. There are qualified laboratory directors and a certain number of qualified full-time staff;
5. Have scientific work norms and perfect management system.

Article 14 The establishment, adjustment, cancellation and construction of laboratory institutions shall be applied for by relevant secondary teaching units and implemented after being approved by the university.

Article 15 The laboratory shall be headed by the director. The director of the laboratory must have a high level of professional theoretical cultivation, rich experience in experimental teaching and laboratory management, enthusiasm for laboratory work, strong sense of responsibility and strong organizational ability.

Article 16 Strictly implement all rules and regulations of laboratory work, including the purchase, use, maintenance, storage, damage reporting, scrapping, transfer, borrowing, accounting and the use of low-value consumables, etc., which shall be carried out in accordance with the relevant regulations of the university.

Article 17: Ensure laboratory safety by adhering to the principles of putting people first, prioritizing safety, focusing on prevention, and comprehensive management, effectively enhancing the awareness of red lines and bottom-line thinking. Based on actual circumstances and the complexity of laboratory safety work, always uphold that national laws, regulations, rules, and mandatory standards are the baseline for laboratory safety and must be strictly followed without any compromise.

Article 18 All instruments and equipment in the laboratory are the property of the school, and the laboratory has management responsibility and the right to use them. Laboratory managers shall conduct a once-a-semester inventory and inspection of the instruments and equipment in their laboratory, and shall regularly maintain them to ensure that the equipment integrity rate remains above 95%.

Article 19: Laboratory materials such as instruments, equipment, and experimental supplies should be stored in classified areas with designated rooms and cabinets. Chemical reagents should be stored separately and must not be stored together with other instruments in the warehouse. Valuable, precision, and scarce instruments should be managed by designated personnel, and toxic substances should be stored in special cabinets and isolated storage areas.

Article 20 Laboratory staff must prepare the necessary equipment for the experimental courses of this semester before the start of the semester one week before the experiment begins; experimental instructors must complete the debugging and inspection of instruments and equipment with the assistance of management staff. After each experiment, instruments and equipment must be cleaned, and the cleanliness and hygiene of the laboratory must be maintained.

Article 21 Anyone who causes damage or loss of instruments, equipment and materials due to violation of regulations or negligence shall be dealt with according to the relevant documents of the university.

Article 22 Laboratories shall strengthen the monitoring of laboratory environment and labor protection against harmful to human body environments such as high temperature, low temperature, radiation, bacteria, noise, toxicity and dust.

Article 23: Laboratories must strictly abide by the "Regulations on the Safety Management of Chemical Hazardous Materials" issued by the State Council and the "Law of the Peoples Republic of China on Guarding State Secrets" and other relevant safety and confidentiality laws and regulations, regularly inspecting the implementation of safety measures in areas such as fire prevention, poison prevention, theft prevention, and accident prevention. They should frequently conduct safety and confidentiality education for teachers and students to effectively ensure personal and property safety.

Article 24 The laboratory shall establish a duty system and a strict attendance system. A post responsibility system shall be established and improved, and the work level and performance of the laboratory staff shall be evaluated regularly.

## Chapter IV Duties

Article 25 Duties of the schools deputy leaders

1. Responsible for leading the construction of laboratories throughout the school.
2. Responsible for approving major experimental reform plans.
3. Responsible for approving the annual equipment budget allocation plan and purchase plan.

Article 26, duties of the Office of Education

Under the leadership of the vice president, manage and coordinate all aspects of the laboratory. His responsibilities are:

1. Formulate the management system of laboratory and experimental teaching in the school.
2. Organize the formulation of laboratory construction plan.
3. Responsible for the management of experimental teaching throughout the school.
4. Cooperate with relevant departments of the school to do a good job in the training, assessment and staffing of laboratory staff.

Article 27 Duties of secondary teaching units

1. Formulate the management system of laboratory and experimental teaching according to the relevant regulations of the school.

2. Organize the formulation of the construction plan of the laboratory in the unit; review the application scheme of the new construction, expansion, migration, renewal and cancellation of the laboratory in the unit; review the purchase plan, maintenance plan and repair plan proposed by each laboratory.

3. Lead the laboratory of this unit to constantly reform the experimental methods, update the experimental content and improve the quality of experimental teaching.

4. Regularly check the implementation of laboratory teaching, equipment management, scientific research and development rules and regulations.

Article 28 Duties of the director of the Experimental and Practical Training Center

1. Organize and compile the annual instrument and equipment purchase plan; be responsible for the declaration and procurement of low-value consumables.

2. Organize laboratory personnel to do a good job in the preparation of instruments and equipment, components and materials, etc., to ensure the smooth progress of experimental teaching and scientific research work.

3. Formulate operation procedures for large and valuable instruments and equipment, keep records of the storage, maintenance, repair and use of instruments and equipment, and be responsible for regular inspection.

Article 29 Duties of experimental personnel

Mainly complete the preparation of experiments, laboratory management, equipment maintenance and repair.

## Chapter V Supplementary Provisions

Article 30 These Measures shall be implemented as of the date of promulgation and shall be interpreted by the Office of Academic Affairs. The original Regulations on Laboratory Work of Hunan City University (Xiangchengyuan Fa [2008] No.76) shall be repealed at the same time.

# Hunan City College Undergraduate Experimental Teaching Management Measures

Xiangcheng Institute [2024] No.53

## Chapter I General Provisions

Article 1 Experimental teaching is an important component of undergraduate teaching work and a crucial link in cultivating students scientific spirit, practical ability, and innovative consciousness. In order to further standardize the management of experimental teaching and effectively improve the level of experimental teaching, this method is specially formulated in combination with the actual situation of the school.

Article 2 The fundamental task of experimental teaching is to provide students with basic training in experimental methods and skills, help students master modern experimental methods and scientific experimental ability, and cultivate students learning style of linking theory with practice, rigorous scientific attitude and comprehensive innovation ability to analyze and solve problems.

## Chapter 2 Experimental teaching task management

Article 3 Experimental teaching should be oriented towards capability development and outcome production focusing on building a cultivation system that connects basic experiments comprehensive experiments design experiments and innovation experiments. It is necessary to strengthen experimental safety education according to national quality standards and relevant requirements for professional certification optimize basic operational training and necessary verification experiments add design-oriented exploratory and innovative comprehensive experimental content.

Article 4 The experimental teaching plan is an organic part of the professional training plan, which shall be formulated by each secondary college and approved by the Academic Affairs Office. The principles and requirements of the formulation are consistent with those of the professional training plan.

Article 5 The experimental teaching syllabus is a guiding standard for experimental teaching and must meet the requirements of the "National Quality Standards for Undergraduate Programs in Ordinary Higher Education Institutions" emphasizing moral education and the cultivation of virtue paying attention to the coordination with theoretical course content and reflecting the latest achievements in disciplinary development in a timely manner. Each secondary college must formulate corresponding experimental teaching syllabuses for the experimental courses set out in the experimental teaching plan and file them with the Academic Affairs Office. The content of the experimental teaching syllabus should specifically include basic course information teaching objectives names of experimental projects and hour allocations experimental content experimental textbooks experimental requirements and assessment methods.

Article 6: Experimental projects are the basic units that carry experimental teaching content and should be scientifically arranged according to the prescribed experimental teaching hours with a focus on cultivating students basic experimental skills and practical innovation capabilities emphasizing the absorption of cutting-edge research achievements in the field. The establishment of experimental projects must align with the experimental teaching syllabus; any new or changed experimental projects must be accompanied by revisions to the corresponding experimental teaching syllabus. The names of experimental projects should be standardized, and different experimental projects should not cover the same content. Teaching experimental projects are generally based on a minimum of 2 class hours as the basic unit.

Article 7 Each experimental course shall select or write the experimental teaching materials or guidebooks according to the experimental outline. The experimental teaching outline shall be formulated or revised by the teacher in charge of the course, reviewed by the undergraduate teaching guidance committee of the secondary college, and approved by the academic affairs office before implementation.

Article 8: Laboratories should strengthen the management of instruments and equipment, promptly repair instruments and equipment, ensuring that the equipment integrity rate is no less than 95%. The experimental

equipment should ensure: basic courses should have one set per person; technical foundation courses and professional foundation courses should have one set per two people; in principle, the number of people per group for professional courses should not exceed 4 (except for special equipment).

### Chapter 3 Experimental teaching process management

Article 9 Before the laboratory class, the experimental instructor and the experimental technician shall prepare all the instruments and equipment needed for the experiment and all the materials, tools and teaching materials needed for the experiment.

Article 10: Experimental instructors must strictly require students in experiments and provide safety education before the experiment to ensure personal and equipment safety during the experiment. Before the experiment, instructors must check students preview reports and allow only those who have passed the preview to proceed with the experiment. Instructors should encourage students to independently complete operations, data processing, and discussion and analysis of experimental results. After the experiment, instructors must organize students to clean and tidy up experimental items, and only after a thorough inventory can students leave the laboratory.

Article 11: The experimental instructor must prepare lessons conscientiously, write experimental teaching plans, and ensure adequate preparation; manage classroom discipline strictly, maintain computer and other instruments properly, enforce classroom rules, conduct regular data checks and preservation, and keep records of students performance. Experimental instructors should be experienced teachers with the rank of lecturer or engineer or above. Teachers providing guidance for experiments for the first time should be required to give a trial lecture.

Article 12 Students must follow the guidance of teachers and laboratory technicians conduct experiments with seriousness and dedication keep accurate experimental records (the original data recording sheets should be signed by the instructor before leaving the laboratory) and write experimental reports as required. The experimental report generally should include the purpose of the experiment the instruments and equipment and their working principles experimental procedures original data results and analysis.

Article 13: Experimental instructors must carefully grade students experimental reports and record the basic circumstances of each students experiment and completion of the experimental report. For experimental reports that do not meet the requirements, they should be returned for redoing; for those who plagiarize others, serious action should be taken. Teachers should use red pens to grade experimental reports, and the grading content includes correcting errors, evaluating grades, and indicating dates.

Article 14 The evaluation and grading of experimental courses shall be conducted at the end of each semesters experiments. For independently established experimental courses, various forms such as written tests, oral defenses, and practical operations may be adopted, and grades shall be comprehensively calculated based on attendance, operational performance, and experimental reports. The experimental component of theoretical courses shall contribute a certain proportion to the course examination scores.

Article 15 If a students absence from an experimental course reaches one-third or more of the total class hours, the experimental grade will be calculated as zero. Students who are missing experimental projects must make up for them before their grades can be calculated. Students who fail the experimental course must retake the experiment according to school regulations, and the retake will be managed according to relevant rules.

### Chapter 4 Archive management of experimental teaching

Article 16 The laboratory shall establish and improve the experimental teaching archives. The materials of the experimental teaching archives include:

1. Laboratory work plan, laboratory construction plan, experimental teaching plan, experimental teaching outline, experimental project opening form, experimental guidebook;
2. Experimental teaching task book, experimental teaching arrangement or experimental class schedule, experimental class record card, student experimental report (retained for nearly 5 years, including original records of student experimental data);
3. Operation records of large equipment and maintenance records of instruments and equipment;
4. Information about laboratory personnel and experimental teaching personnel, records of experimental trial

work and trial lecture, position logs of laboratory personnel, records of laboratory directors work, materials on experimental equipment modification and reform of experimental content and methods;

5. Other relevant information.

## Chapter V Experimental teaching conditions guarantee

Article 17 The teaching departments that set up experimental courses shall formulate practical and feasible experimental teaching management systems and strict experimental operation procedures, strengthen the guidance of students, and ensure the order, efficiency and safety of experimental teaching.

Article 18: The teaching departments offering experimental courses should establish incentive schemes to encourage teachers with high titles and advanced degrees to engage in experimental teaching, attracting high-level teachers to participate in laboratory construction, management, and experimental teaching work, thereby improving the knowledge level and capabilities of the experimental teaching faculty as well as the title structure. Teachers are encouraged to initiate research projects on experimental teaching reforms to promote the deepening of experimental teaching.

Article 19 The university will give priority to the investment and gradually increase the funding for experimental teaching every year, so as to ensure the normal operation of experimental teaching and the continuous updating of experimental content, so as to comprehensively improve the level of experimental teaching.

Article 20: Laboratory construction should be planned according to the development plan of the secondary college, professional settings, and teaching needs, based on thorough research, with a focus on key areas and proceeding in stages and years. Continuously adjust the laboratory layout, integrate experimental resources, and gradually form a number of teaching laboratories that serve multiple disciplines and specialties. Coordinate and allocate experimental teaching resources and related educational resources to achieve the sharing of high-quality resources.

Article 21 The laboratory shall organize the construction and management work according to the principle of unified leadership and hierarchical management. In order to straighten out the management procedures and clarify the management responsibilities, the construction of the laboratory shall be subject to project management responsibility.

## Chapter 6 Laboratory Open Management

Article 22 Under the premise of completing experimental teaching tasks, secondary teaching units shall make full use of existing faculty, instruments and equipment resources, open to all students, provide conditions for students practical learning and scientific research, and strengthen the cultivation of students practical innovation, scientific and technological development ability and team spirit.

Article 23 The principle of "teaching according to students aptitude and paying attention to effectiveness" shall be adhered to in opening laboratories. The time, process, form, content and method of laboratory opening shall be determined according to different needs of students, so as to better stimulate students initiative and enthusiasm for learning, and thus promote their all-round development and give full play to their special skills.

Article 24 Laboratories should constantly enrich open content, improve open forms, increase open time, expand open scope and improve open quality.

Article 25 Laboratory opening work should be included as an important part of teaching reform. Encouragement and support are given to teachers to transform parts of their research achievements that contribute to fostering students innovative abilities into experimental teaching content, integrating experimental teaching with scientific research and students extracurricular scientific activities. This enhances the support of scientific research for undergraduate experimental teaching, strengthens the introduction of new technologies and methods, and cultivates students ability to conduct scientific experiments using advanced technological means.

Article 26 The secondary teaching units are fully responsible for the organization and implementation of laboratory openness within their units, which includes: planning and construction of open teaching, determining the content and scope of open teaching, approving plans and programs for open teaching, etc. The laboratory director is specifically responsible for formulating detailed implementation rules for laboratory openness and

compiling and implementing open teaching plans.

Article 27 Laboratory managers shall be responsible for the receipt and dispatch of instruments and equipment and experimental supplies, keep records of laboratory opening work, and provide quality services for students.

### Chapter VII Supplementary Provisions

Article 28 This regulation shall be implemented from the date of issuance and shall be interpreted by the Academic Affairs Office. The original "Hunan City University Experimental Teaching Management Measures" (Xiangchengyuanjiaojiao [2004] No.60), "Hunan City University Laboratory Construction Project Management Measures" (Xiangchengyuanzheng [2004] No.137), and "Hunan City University Laboratory Openness Management Measures" (Xiangchengyuanfa [2011] No.22) are hereby repealed.