

College of Urban Transportation and Logistics Document

College of Urban Transportation and Logistics [2023] No. 9

To all units of the college:

The "Laboratory Safety Management Regulations of the College of Urban Transportation and Logistics" are hereby issued to you. Please comply and implement them accordingly.

This notice is hereby issued.

College of Urban Transportation and Logistics



October 16, 2023

Distribution: school leaders, college units at all levels

Issued by the comprehensive Office of College of Urban Transportation and Logistics on October 16, 2023

Laboratory Safety Management Regulations of the College of Urban Transportation and Logistics

Chapter 1 General Provisions

1 In order to further strengthen the laboratory safety management at the college, establish a long-term and standardized safety management system, improve and implement the laboratory safety management responsibility system, promote the concept of laboratory safety development, and effectively prevent laboratory safety accidents, this regulation is formulated based on the "Regulations on Laboratory Safety Construction and Management in Higher Education Institutions (Revised)" (Guangdong Provincial Department of Education [2018] No. 5), the "Shenzhen Technology University Laboratory Safety Management Measures (Trial)" (Shenzhen Technology University [2019] No. 111), the "Shenzhen Technology University Laboratory Safety Management Responsibility Accountability Rules" (Shenzhen Technology University [2021] No. 36), and other relevant regulations, in combination with the actual conditions of the college.

2 Laboratory safety management implements a system of job responsibility, responsible leadership, and accountability. Each laboratory must have a dedicated person in charge. The college's leadership and relevant departments (or centers) shall conduct regular inspections of laboratories and promptly eliminate potential safety hazards.

3 Laboratory safety management must adhere to the principles of "safety first, prevention foremost, and comprehensive management," and follow the principles of "who is in charge, who is responsible" and "who uses, who is responsible."

4 Each laboratory must display the complete emergency response plan for laboratory safety accidents, safety management measures, and operating procedures, in accordance with the specific needs of the discipline.

5 In the event of an accident in any laboratory, effective measures should be taken to actively rescue and promptly report the incident, preventing the accident from escalating and minimizing the losses, to ensure the personal safety and property security of faculty, staff, and students.

6 These measures apply to all laboratories across the college involved in teaching and research tasks. Laboratories undertaking external teaching and research tasks must also define safety responsibilities.

Chapter 2 Organizational Structure and Responsibilities

7 Laboratory safety management is an important part of the college's safety and stability work, and is managed at three levels: The Laboratory Safety Committee, the College Laboratory Center, and each laboratory.

8 The College Laboratory Safety Committee is responsible for guiding the overall laboratory safety management, providing consultation, discussion, review, and evaluation for the safety management and operations of the laboratories, and making decisions on major matters related to laboratory safety construction and operation. Its main responsibilities are as follows:

- (1) Implement national and higher-level regulations on laboratory management and guide the planning and supervision of laboratory safety management at the college.
- (2) Review and revise important regulations and emergency response plans for laboratory work at the college.
- (3) Supervise and guide the technical safety, operational management, and environmental protection work of laboratories. Regular and irregular safety inspections will be conducted by safety officers from various laboratories to check safety and operational management status and promote corrections of safety hazards and management deficiencies.
- (4) Review and evaluate major safety risks and risk control plans for laboratory construction projects, large equipment purchases, and major teaching and research projects.
- (5) Organize and handle emergency events at the college laboratories, monitor the situation, execute emergency plans, issue emergency orders, control the situation to the smallest extent, and minimize harm.
- (6) Responsible for reviewing the responsibility identification for laboratory safety accidents.
- (7) Review the construction and training plans for laboratory teams and inspect the implementation of continuing education and training for laboratory safety personnel.

- (8) Cooperate with the relevant departments of the school in carrying out laboratory safety education, cultural promotion, and emergency drills.
- (9) Approve the annual assessment results of laboratory safety and operational management, and select outstanding collectives and individuals in laboratory management.

9 The College Laboratory Center is the responsible department for laboratory safety management and the daily administrative body of the College Laboratory Safety Committee. It is responsible for the daily safety management of all laboratories. Its main responsibilities are as follows:

- (1) Implement relevant policies and regulations on laboratory management issued by higher authorities, establish and supervise the implementation of safety management regulations for laboratories at the college.
- (2) Assign safety officers and responsibilities for each laboratory, supervise the safety of laboratories and educate staff on safety, and guide each laboratory to carry out relevant education and training activities based on the discipline's characteristics.
- (3) Regular and irregular safety inspections and evaluations of laboratories to promptly address safety hazards and management deficiencies.
- (4) Supervise the purchase, storage, use, and disposal of hazardous chemicals, toxic substances, precursor chemicals, explosive chemicals, and radioactive isotopes in all laboratories.

- (5) Oversee radiation safety and protection measures for radioactive isotopes and radiation devices, assist environmental protection departments in radiation safety monitoring and evaluation.
 - (6) Supervise and inspect the safety management of the college's hazardous chemical storage and coordinate with the school's laboratory waste disposal center for safe management.
 - (7) Assist the relevant departments of the school in laboratory safety inspections, cultural promotion, education, training, and emergency drills.
- 10** The laboratory head is the person responsible for laboratory safety. Each laboratory must appoint one safety administrator (a full-time teacher or experimental teacher) to be specifically responsible for the daily safety management of the laboratory. Their main responsibilities are as follows:
- (1) Implement laboratory safety management regulations and ensure that each person is responsible for their role according to the laboratory safety responsibility system. Oversee daily safety management tasks for the laboratory.
 - (2) Develop comprehensive safety operation procedures and safety precautions for laboratory instruments and equipment according to the specific characteristics of the laboratory and its experimental projects.
 - (3) Regularly identify and update safety risk factors in the laboratory, conduct regular safety inspections and evaluations, and promptly correct safety hazards.

- (4) Conduct safety evaluations for proposed new equipment purchases or experimental projects, and report them to the College Laboratory Center for filing.
- (5) Regularly conduct laboratory safety education and enforce laboratory access control policies.
- (6) Implement the "Laboratory Safety Accident Emergency Plan" and participate in laboratory safety emergency drills.
- (7) Implement and follow the relevant policies and requirements from higher authorities and consciously accept supervision and inspection from the relevant departments.
- (8) Cooperate with the relevant departments of higher authorities to compile and report safety data and information as required.

Chapter 3 Laboratory Safety Management

11 Laboratories implement an access control system. Personnel wishing to enter the laboratory must first undergo laboratory safety education and training on safe operating procedures. They must pass the assessment in the Shenzhen Technology University laboratory safety training system before being allowed to enter the laboratory for experiments. Personnel engaged in tasks involving flammable and explosive materials, toxic substances, radioactive isotopes, special equipment, and highly pathogenic microorganisms, among others, must possess the required professional qualifications. During experiments, individuals must consciously adhere to laboratory safety and protective regulations, familiarize themselves with the operating procedures for instruments and

equipment, and learn the safe usage of fire safety and firefighting equipment.

12 Laboratory heads, managers, and supervising instructors are responsible for the technical safety of student experiments. They must emphasize safety precautions to students before experiments and have the authority to instruct violators to stop operations and conduct inspections. Students must conduct experiments according to operating procedures under the guidance of their instructors or laboratory technicians. In laboratories with enclosed environments, students are not allowed to operate electrical equipment. High-risk experiments must have safety measures in place and be supervised by designated personnel.

13 Laboratories with experimental tasks during holidays, nighttime, or other non-working hours must make arrangements in advance and submit an application to the college for approval before opening. Personnel entry and exit records should be maintained. Laboratories without experimental activities during holidays must be "locked" by the College Laboratory Center. Each laboratory should summarize its holiday opening status and report to the College Laboratory Center, which will then report to the campus security and the Department of State-owned Assets and Laboratory Management for filing, in order to facilitate supervision and inspection.

14 Laboratories handling confidential projects must, in coordination with relevant departments, designate confidentiality levels and implement corresponding security measures. Regular security and confidentiality education for laboratory personnel must be conducted, and regular

inspections of the implementation of confidentiality protocols should be carried out to prevent leakage of confidential information. Experimental projects involving economic, official, or national defense confidentiality must follow national regulations and internal management rules of relevant university departments.

15 Every laboratory must have safety warning signs. Laboratories with technical safety hazards or requiring special precautions (such as hazardous chemicals, flammable and explosive substances, radiation, high pressure, strong magnetic fields, pressure vessels, etc.) must display prominent warning signs on the laboratory door and in relevant areas of the room, and install warning lights that must be turned on during experiments. Each laboratory area must have emergency exit signs and escape route maps posted, and evacuation channels must be kept clear.

16 If safety hazards are found in the laboratory, they should be reported to the laboratory center and relevant departments of the school promptly. In the event of a safety incident or accident, effective measures must be taken to rescue and prevent the situation from escalating. Efforts should be made to minimize losses and ensure the personal safety and property security of students and staff. At the same time, reports must be made to the Department of State-owned Assets and Laboratory Management and the campus security center. For major safety accidents, the university should report to the relevant government authorities.

17 Each unit must provide locations and technical maintenance measures that meet the standards for installing and using instruments and equipment, according to the performance

requirements of the equipment. Regular inspections and maintenance must be conducted. Operators must undergo training and pass assessments before being authorized to operate equipment and must follow the designated safety operating procedures.

Chapter 4 Laboratory safety inspection system

18 Primary inspections are organized and implemented by the safety heads and safety managers of each laboratory. The specific contents are as follows:

- (1) Conduct a daily safety and environmental inspection of the laboratory under their responsibility and fill out the Laboratory Safety Self-inspection Record.
- (2) Timely eliminate general unsafe factors that are within their capability, and report any safety hazards or unsafe factors that they cannot resolve to the unit's leadership.
- (3) Cooperate with the college, school, and higher authorities' special inspection work.

19 Secondary inspections are organized and implemented by the College Laboratory Center. The specific contents are as follows:

- (1) Conduct a monthly inspection of relevant laboratories (especially key safety monitoring areas). In case of holidays or severe weather, organize a comprehensive safety inspection, and fill out the Laboratory Safety Inspection Record.
- (2) Check the implementation of safety inspections by laboratory safety managers.

- (3) Timely eliminate general unsafe factors that are within their capability, and report safety hazards or unsafe factors that cannot be resolved to the higher-level department.
- (4) Cooperate with the school and higher authorities' special inspection work.

20 Tertiary inspections are organized and implemented by the College Laboratory Technology Safety Committee. The specific contents are as follows:

- (1) Organize regular or ad-hoc inspections of laboratory safety management and operational work every semester, and inspect and guide the Laboratory Center on the implementation of laboratory safety, operational management, and environmental protection work.
- (2) Analyze the college's laboratory safety management work, address any anomalies, and report unresolved issues to the university's higher-level departments.
- (3) Publish the results of laboratory safety inspections. For laboratories with significant safety and environmental hazards, issue a rectification notice, requiring the laboratory to address the issues within a specified period. If the issues are not corrected satisfactorily, suspend experimental activities. Experimental activities may only resume after the hazards are completely eliminated and the laboratory passes the inspection and acceptance.

Chapter 5 Laboratory Environmental Safety

21 It is strictly forbidden to make loud noises, smoke, eat food, or litter in the laboratory. It is also prohibited to bring items listed in the national risk inventory or other prohibited items into the laboratory, and unauthorized persons are not allowed to enter the laboratory.

22 Instruments, equipment, materials, and tools in the laboratory must be placed in an orderly manner with a reasonable layout. Laboratories must promptly clean up old items and must not store items unrelated to laboratory work, ensuring that safety passageways are unobstructed.

23 Laboratories must manage the experimental environment and ensure labor protection. For environments that may harm human health, such as vibration, noise, welding, radiation, bacteria, toxicity, lasers, dust, or ultra-clean conditions, laboratories must strengthen environmental monitoring and labor protection, implement corresponding protective measures, and provide necessary protective equipment to ensure the safety and health of laboratory personnel.

24 The laboratory safety manager is responsible for managing toxic and hazardous waste liquids, solid waste, and biological samples. The laboratory must strictly comply with national environmental protection regulations, regularly classify and recycle hazardous waste according to the procedures of the Department of State-owned Assets and Laboratory Management. Random discharge of hazardous waste is strictly prohibited.

25 For new, renovated, or expanded laboratories, fire protection facilities and waste disposal plans must be included in the engineering design and planning, and the plans must be

approved by the relevant functional departments of the school before implementation.

Chapter 6 Laboratory Fire Safety

26 The safety manager of each laboratory must strictly implement the "Three Checks" (check circuits, check instruments and equipment, check reagent storage), "Four Prevents" (prevent fire, prevent explosion, prevent theft, prevent accidents), and "Five Closures" (close doors, close windows, close water, close electricity, close gas). It is strictly prohibited to engage in activities unrelated to experiments or activities that jeopardize laboratory safety, such as cooking food on open flames, smoking, or setting up beds for resting in the laboratory.

27 Each laboratory must be equipped with appropriate fire-fighting equipment, which must not be moved, obstructed, or intentionally damaged, and should be inspected and updated regularly. Fire safety work in the laboratory should prioritize prevention. Laboratory staff must be familiar with the characteristics of various flammable and explosive chemicals and fire safety knowledge, learn to correctly use fire-fighting equipment, improve accident prevention capabilities, and promptly detect and eliminate fire hazards.

28 Laboratories must ensure safe use of electricity, and it is forbidden to modify or dismantle electrical equipment without permission. It is strictly prohibited to use high-power electrical appliances unrelated to experiments in the laboratory, and unauthorized wiring or exposed wire ends are not allowed. Items should not be piled in the power switch box to prevent electric shocks or fires. When using high-voltage electrical equipment, operators should wear insulated rubber shoes and

gloves, or use safety rods. If someone is electrocuted, the power should be immediately cut off, and the person should be separated from the wire using an insulated object before performing resuscitation. Instruments and equipment must be monitored while in operation, and abandoning the post is prohibited. Equipment that requires long periods of continuous operation should have rotating personnel assigned to monitor it and inform on-duty security personnel to pay attention to its safety during their patrols.

29 Laboratories must carry out fire prevention, explosion prevention, electric shock prevention, poisoning prevention, and injury prevention measures. Fire-fighting equipment, chemical emergency first aid kits, medications, and other protective equipment must be provided. The college should collect information and make predictions before various disasters occur, taking proactive measures. In the event of unforeseen disasters such as fires or earthquakes, staff and students should be organized to evacuate in an orderly manner to ensure their safety.

Chapter 7 Instrument and Special Equipment Safety

30 Instrument and equipment safety management. Operators must undergo training and assessment before using any instruments or equipment. All instruments and equipment must have complete and detailed usage records. Laboratories should strengthen safety management of instruments and equipment, regularly maintain and service the equipment and safety facilities, and promptly repair any malfunctioning equipment. Maintenance and repairs must be recorded. Experiments and research must be conducted strictly according to operating procedures.

31 Boilers, cranes, forklifts, battery-operated vehicles, and other special equipment must undergo registration, certification, and annual inspection procedures. Only after obtaining a safety permit can these devices be used. Operators must receive training and certification before operation, and safety warning signs must be posted prominently on such equipment.

Chapter 8 Hazardous Chemicals and Flammable Explosive Materials Safety

32 Laboratory chemicals, such as gasoline, diesel, lubricants, gas cylinders, batteries, and other hazardous or flammable and explosive materials, must be stored separately according to their category and characteristics. Those with special requirements must be stored in specialized, well-equipped storage cabinets. The storage areas must have the necessary ventilation, explosion-proof, pressure relief, fire prevention, lightning protection, alarm, fire extinguishing, sun protection, and electrostatic discharge protection facilities. Chemicals with conflicting chemical properties or fire-fighting methods must not be stored together and should be kept at a safe distance from each other. Hazardous chemicals (including drugs used for illegal drug manufacture, explosive chemicals, and flammable chemicals), as well as toxic substances and bacterial vaccines, must be managed following the "Five Double" principle (double people for receipt and delivery, double people for bookkeeping, double people for locking, double people for use, double people for receipt). Reliable safety measures must be implemented, and detailed records must be kept.

33 Gasoline, diesel, lubricants, gas cylinders, batteries, and other chemical materials must be stored in areas free from open flames, and they should be stored upright and securely fastened. These materials should be kept away from heat sources or fire, protected from direct sunlight, and protected from impact and collision. The labeling should be kept intact, and the items should be used only for their designated purpose. Unauthorized modifications are strictly prohibited.

34 When using radioactive substances, laboratories should avoid the entry of radioactive materials into the body or contamination of the body. The exposure to external radiation should be minimized, and the hazards caused by the diffusion of radioactive materials should be reduced. Radioactive waste should be stored in dedicated sealed containers and disposed of regularly according to regulations.

35 Hazardous chemicals in the laboratory (including chemicals used for illegal drug manufacture, explosive chemicals, and flammable chemicals) must have proper chemical labels and warnings indicating the danger of drug manufacturing or explosions. The "Shenzhen Technology University Laboratory Hazardous Chemicals Daily Use Registration Form" should be filled out when these chemicals are used. Once the chemicals are used up or have leftovers that do not need to be continued, they must be returned to the Department of State-owned Assets and Laboratory Management. Unauthorized disposal or abandonment is prohibited to prevent leakage. The chemicals should not be used beyond their expiration date. If the inspection period is exceeded, they should be returned to storage and sent for inspection in time.

36 Regular inspections of all hazardous chemicals, flammable and explosive materials, pipelines, joints, switches, and equipment must be conducted to check for leaks and to eliminate safety hazards in a timely manner.

Chapter 9 Rewards and Punishments

37 Laboratories that perform outstandingly in safety management will be recognized and rewarded by the college after approval by the laboratory center, and the results will be reported to the relevant departments of the school. If a laboratory's safety manager causes a safety incident with adverse consequences, they will receive criticism and be held accountable.

38 Laboratories and individuals who make significant contributions to safety management, discover major safety hazards, take proactive measures to remedy or eliminate the risks, prevent casualties, or protect national property from major losses during accidents will be recognized and rewarded by the school after approval by relevant departments.

39 Laboratories or individuals violating these regulations will be reported to the relevant college departments for processing according to the severity of the violation. If economic losses are caused, compensation will be required. If a crime is involved, criminal charges may be pursued.

40 Any major accidents resulting from negligence, improper operations, or disregard for safety that lead to theft, fires, pollution, serious injuries, or damage to expensive or large instruments should be promptly reported and investigated by the relevant authorities. Any attempts to conceal, delay reporting, or distort facts will result in severe penalties.

Chapter 10 Supplementary Provisions

41 These regulations are interpreted by the College Laboratory Center.

42 These regulations apply to all experimental sites and instruments and equipment within the college.

43 These regulations come into effect upon issuance, and the previous Transportation College Laboratory Safety Management Regulations (Trial) (Document No. 9, 2021) is hereby abolished.

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