

Policies of the University of North Texas at Dallas	Chapter 13
13.016 Laboratory and Research Safety	Research

Policy Statement.

The University of North Texas at Dallas is committed to creating and maintaining a safe laboratory and research environment for the protection of faculty, staff, students, affiliated personnel, and visitors. Everyone working in laboratories and involved in research has a role to play in creating and maintaining a strong culture of safety. This policy sets out basic principles and general roles and responsibilities in the promotion of a culture of safety in laboratories and in research at UNT Dallas.

Application of Policy.

This policy applies to all faculty, staff, students, and affiliated personnel of UNT Dallas when using a laboratory or engaging in research on the UNT Dallas campus, funded by UNT Dallas, or otherwise associated with UNT Dallas.

Definitions.

1. Affiliated Personnel. “Affiliated personnel” are individuals who are not UNT Dallas faculty, employees, or students but have a professional relationship with UNT Dallas, such as visiting faculty, visiting postdoctoral fellows, volunteers, and other scholars.
2. Laboratory (Lab). “Laboratory” or “Lab” means a discrete room, space, or field site where research, scholarly activity, or educational activities are conducted using materials or equipment that pose a potential health or safety risk (e.g., chemical, biological, radiological, or other hazardous material; lasers; compressed gases; liquid cryogenics; high powered electronic or mechanical equipment; high pressure devices, research animals, etc.).
3. Laboratory Manager (Lab Manager). The “Laboratory Manager,” or “Lab Manager” means the Principal Investigator or individual who, under the direction of the PI or on his or her own, has responsibility and oversight for laboratory functions and operation of a lab.
4. Laboratory Personnel (Lab Personnel). “Laboratory Personnel” or “Lab Personnel” means faculty, staff, students, affiliated personnel, and visitors who work in the laboratory or are present in the laboratory and who are at risk of possible exposure to hazardous materials or processes in the laboratory.

5. Principal Investigator (PI). “Principal Investigator” or “PI” means a single individual who, in the event of an award from an external funding agency, shall have the full and final responsibility for the conduct of the project as proposed and as set forth in the award.
6. Research. “Research” means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge or a clinical investigation. Activities which meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program which is considered research for other purposes. For example, some demonstration and service programs may include research activities.
7. Research Personnel. “Research Personnel” means members of the research team for a research project or study (including the PI) engaged or involved in a research project or study and who are at UNT Dallas. These individuals may include but are not limited to physicians, research nurses, coordinators, data managers, lab technicians, postdoctoral fellows, students, volunteers, affiliated personnel, and/or other personnel.

Procedures and Responsibilities.

1. The Office of Risk Management and the Office of Sponsored Projects are jointly responsible for overseeing and promoting health and safety in laboratories and in research at UNT Dallas.

Responsible Party: Office of Risk Management; Office of Sponsored Projects

2. Principal Investigators, lab managers, lab personnel, and research personnel are responsible for performing all laboratory work and research at UNT Dallas in accordance with federal and state health and safety laws and regulations as well as the health and safety policies and practices of UNT Dallas. Additionally, all research and lab work must be performed in accordance with policies and procedures of the Office of Risk Management, as applicable. Principal Investigators, lab managers, lab personnel, and research personnel are responsible for properly using university-supplied materials and equipment and for exercising good judgment in safely carrying out their work by following established procedures.

Responsible Party: Principal Investigator; Lab Manager; Lab Personnel;
Research Personnel

3. Principal Investigators, lab managers, lab personnel, and research personnel must wear personal protective equipment in the lab and in research in order to reduce worker exposure to chemical, physical, biological, and radioactive agents. Principal investigators and lab managers are responsible for conducting a protective equipment assessment at the start of a research project to determine what personal protective equipment is needed and on an annual basis thereafter or whenever there is a change that may impact the personal protective equipment needed. Principal investigators and lab managers are responsible for maintaining a written record of assessments that have been conducted in accordance with award requirements, UNT Dallas Policy 4.003 *Records and Information Management*, and federal and state regulations.

Responsible Party: Principal Investigator; Lab Manager; Lab Personnel;
Research Personnel

4. Principal Investigators and lab managers have primary responsibility for maintaining a safe environment in the lab and in engaging in research and are accountable for the safety of the lab personnel and research personnel who are under their direction or supervision. Principal investigators and lab managers shall support a culture of safety as follows:
 - a. Conduct a lab self-inspection prior to initiating research in a lab and at least once a year thereafter. The purpose of this inspection is to identify, evaluate, and remedy potential hazards and unsafe laboratory practices. Self-inspection are also required whenever new substances, processes, procedures, or equipment are introduced into the lab that might present new health and safety hazards. These self-inspections must be documented and records must be available for review upon request.
 - b. Ensure the lab has an individual identified as the contact person in case of emergencies and that current contact information for that person is posted on the door in clear view for first responders. The contact person must be knowledgeable about the research and hazards present in the lab.
 - c. Require everyone who works in the lab to receive safety training and periodic refreshers as provided in the training section of this policy.

- d. Complement initial orientation and basic safety training with ongoing actions and activities to encourage safety and promote a strong, positive safety culture in the lab.
- e. Encourage lab personnel and research personnel to question and talk about matters related to safety.
- f. Ensure that all required personal protective equipment is readily available to lab personnel and research personnel and is properly used in the lab and in research. Also, ensure that personal protective equipment needs are regularly assessed and restocked/replaced when necessary.
- g. Receive reports of, and respond to, any concerns regarding lab and research safety and ensure appropriate resolution and correction.
- h. Stop lab work or research if it poses an imminent threat to people, the environment, or facilities.
- i. Notify the Director of Risk Management of safety hazards, exposures, accidents, injuries, spills, or releases of hazardous material or of other regulatory and environmental issues.

Responsible Party: Principal Investigators; Lab Managers

- 5. In the performance of their duties, lab personnel and research personnel have a responsibility for maintaining a safe environment in the lab and when engaging in research. Lab personnel and research personnel shall support a culture of safety by reporting to their principal investigator, lab manager, or to the Director of Risk Management any accidents, near-miss situations, or unsafe conditions or environmental health hazards within the lab or when engaging in research of which they are aware.

Responsible Party: Lab Personnel and Research Personnel

- 6. The Director of Risk Management in coordination with the Executive Director of Sponsored Projects will assist principal investigators, lab managers, lab personnel, and research personnel with the implementation of this policy. The Director of Risk Management and the Executive Director of Sponsored Projects will establish and monitor safety practices and training programs and review mechanisms that support safe laboratory and research practices. The Office of Risk Management will support

principal investigators and lab managers in the preparation of training materials and safety plans.

Responsible Party: Director of Risk Management; Executive Director of the Office of Sponsored Projects

7. Training

All principal investigators, lab managers, lab personnel, research personnel, and students performing research in a laboratory must take general laboratory safety training and laboratory specific training (such as biohazards, chemical, and/or radiation training) offered by the Office of Risk Management and the Office of Sponsored Projects at least once a year.

Faculty must provide safety training to undergraduate students taking courses that include a laboratory component before the students begin their laboratory activities.

Depending on the nature of the research and the hazards present in the laboratory, additional laboratory-specific training must be provided by the principal investigator or lab manager to lab personnel and research personnel. This training must include special handling and documentation procedures for each type of hazard present, specific operating procedures for laboratory equipment and experiments, personal protective equipment required for the work area, emergency procedures, and safety plans. Successful completion of training must be documented before individuals start working or performing research in the lab again any time new hazards or procedures are introduced that impact laboratory safety.

Responsible Party: Director of Risk Management; Executive Director of the Office of Sponsored Projects; Principal Investigator; Lab Manager; Lab Personnel; Research Personnel; Faculty teaching and Undergraduate Students taking Classes with a Lab Component

8. Ensuring a Safe Environment

The Director of Risk Management and the Executive Director of the Office of Sponsored Projects will conduct inspections of all lab space at least once every 12 months to identify, evaluate, and remedy potential hazards and unsafe laboratory practices, unless they conclude that the inspection of a particular space should occur on a different timetable. As part of this inspection, lab specific safety plans shall be reviewed and approved. Principal investigators and lab managers will remedy any deficiencies identified during the inspection in a timely manner. If the deficiencies are not corrected in the time-frame defined in the inspection report, then the

department chair will be notified, followed by notifications to the dean or Provost as necessary.

The Director of Risk Management and the Executive Director of the Office of Sponsored Projects also will conduct inspections of lab space to ensure the appropriate disposal of chemicals and hazardous materials.

Responsible Party: Director of Risk Management; Executive Director of the Office of Sponsored Projects; Principal Investigator; Lab Manager; Lab Personnel; Research Personnel

9. Accidents and Incidents in the Lab

The Director of Risk Management and the Executive Director of the Office of Sponsored Projects shall create and maintain an incident/accident reporting and response system for lab emergencies. All lab accidents/incidents must be reported to the emergency response number immediately in accordance with established procedures, as described online.

Responsible Party: Director of Risk Management; Executive Director of the Office of Sponsored Projects; Principal Investigator; Lab Manager; Lab Personnel; Research Personnel

10. Curtailment or Shutdown of Dangerous Activities

The Director of Risk Management and/or the Executive Director of the Office of Sponsored Projects have the authority to curtail or shut down any UNT Dallas research activity considered to constitute an imminent danger to health or safety. In the event of such curtailment or shutdown, the appropriate dean, director, or vice president and the Provost (or designate) must be immediately notified. The principal investigator, lab manager, lab personnel, and research personnel must respect and adhere to the shutdown until the danger is resolved.

Responsible Party: Director of Risk Management; Executive Director of the Office of Sponsored Projects; Principal Investigator; Lab Manager; Lab Personnel; Research Personnel

11. UNT Dallas Chemical Hygiene Plan and Lab Specific Safety Plan

The Occupational Safety and Health Administration (OSHA) has developed numerous workplace regulations designed to prevent injuries and protect the health of workers. Laboratories are unique workplaces and in order to address the worker protection needs of these facilities OSHA developed a standard, *Occupational Exposure to Hazardous Chemicals in Laboratories* (29 CFR 1910.1450). This standard, often referred to as the [OSHA Laboratory Standard](#), imposes many requirements on universities, including the requirement to develop a written Chemical Hygiene Plan. The Texas Department of Health Services requires that institutions of higher education in Texas comply with the OSHA Laboratory Standard.

The UNT Dallas chemical hygiene plan is available on the Office of Risk Management website and is required to be followed by all principal investigators, lab managers, lab personnel, and research personnel.

As part of the chemical hygiene plan required for UNT Dallas, every principal investigator or lab manager must develop a laboratory-specific chemical safety plan for his/her laboratory that is consistent with the guidelines issued by the Office of Risk Management and the Texas State Department of Health Services (templates are available from the Office of Risk Management). A current plan outlining individuals responsible for training, ordering and laboratory management of chemicals must be available and accessible to laboratory personnel and research personnel at all times.

Each lab-specific safety plan must include the following:

- a. A clear definition of what constitutes a safety incident in the lab;
- b. Procedures for incident reporting and response to ensure safe handling and clean ups;
- c. A process to investigate factors contributing to a reportable safety incident.

For the purpose of this policy, a “reportable safety incident” is any unplanned and unwanted incident that occurred during the performance of a lab-related activity and that resulted in or could have led to injury, illness, or material damage to property.

Responsible Party: Principal Investigators; Lab Managers; Lab Personnel;
Research Personnel

12. Minors in Labs and in Research

Principal investigators, lab managers, lab personnel, and research personnel must comply with the UNT Dallas Policy 12.005 *Children on Campus* when minors are present in a lab or when minor are engaged in, or involved with, research.

Responsible Party:

13. Hazardous and Toxic Materials

The purchase, use, handling, and disposal of all hazardous and toxic materials must comply with all procedures and rules of all appropriate regulatory agencies and the Office of Risk Management. Procedures and rules cover, but are not limited to, the handling, ordering, allowable quantity, container size, container labeling, exposure to, record keeping, and disposal of the material in a laboratory or containment area.

Responsible Party: Principal Investigator; Lab Manager; Lab Personnel;
Research Personnel

14. Human Subjects in Research

Research and lab work involving human subjects must be done in accordance with UNT Dallas Policy 13.017 *Protection of Human Subjects in Research* and is subject to the approval, restrictions, and procedures of the North Texas Regional Institutional Review Board.

Responsible Party: Principal Investigator; Lab Manager; Lab Personnel;
Research Personnel

15. Any safety concern regarding research or work in a lab may be submitted to the Executive Director of the Office of Sponsored Projects or the Director of Risk Management. Anyone who receives an allegation of noncompliance with legal requirements related to safety or with this policy shall promptly notify the Executive Director of the Office of Sponsored Projects or the Director of Risk Management of such allegation for review and resolution as appropriate. The Executive Director of the Office of Sponsored Projects and the Director of Risk Management shall coordinate in the resolution of safety concerns and allegations of noncompliance. Safety concerns and allegations of noncompliance may be further referred to appropriate and relevant institutional officials to aid in review and resolution or for possible corrective action.

Responsible Party: The Executive Director of the Office of Sponsored Projects; Director of Risk Management

References and Cross-references.

- UNT Dallas Policy 4.003, *Records and Information Management*
- UNT Dallas Policy 12.005, *Children on Campus*

- UNT Dallas Policy 13.017, *Protection of Human Subjects in Research*.
- U.S. Department of Labor Occupational Safety and Health Administration (OSHA) standard entitled "Occupational Exposure to Hazardous Chemicals in Laboratories" (Code of Federal Regulations, 29 CFR 1910.1450)
- The Texas Hazard Communication Act (Chapter 502 of the Texas Health and Safety Code).
- The Texas Health and Safety Code, Section 481.0621 (b)
- MOU between the Texas Department of Safety and the Texas Higher Ed Coordinating Board Texas Department of State Health Services' [Radiation Control Program](#) guidelines
- *Biosafety in Microbiological and Biomedical Laboratories*, Centers for Disease Control and
- Prevention and National Institutes of Health, U.S. Department of Health and Human Services, 4th Edition, May 1999.
- *NIH Guidelines for Research Involving Recombinant DNA Molecules (NIH Guidelines)*, National Institutes of Health, U.S. Department of Health and Human Services, April 2002.
- *Occupational Exposure to Bloodborne Pathogens Standards*, Occupational Safety and Health Administration, U.S. Department of Labor, 29 C.F.R. 1910.1030.

Forms and Tools.

- UNT Dallas Risk Management Website
- Lab Chemical Storage Guide
- Chemical Hygiene Plan
- Personal Protective Equipment Guide
- Biosafety Policy
- Radiation Safety Policy
- Laser Safety Policy

- Hazardous Materials Shipping & Transportation Guide

- Lab Closeout and Decontamination Guide
- Institutional Biosafety Committee
- University of North Texas at Dallas Biosafety Handbook
- Registration of Biohazards and Recombinant DNA (with form)

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