

POLICY

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Title: Laboratory Health and Safety

Policy Statement

The University of Vermont is committed to providing a healthy and safe working and learning environment, and to supporting environmentally sound practices in the conduct of University activities. It is University policy to comply with all applicable regulations and requirements related to research and teaching in laboratories. All University activities are to be conducted in a manner that ensures the protection of others including students, employees, visitors, as well as to the environment.

Reason for the Policy

It is the intent of this Policy that University personnel plan and carry out their research and teaching activities in a manner that:

1. Protects the health and safety of others including employees, students, and the local community;
2. Protects the environment;
3. Complies with applicable federal, state, and municipal laws and regulations, as well as University Policies and University Operating Procedures.

The goals of this policy are to prevent or minimize injury and illness, environmental incidents, property loss or damage, and business interruption.

Applicability of the Policy

This Policy applies to all University of Vermont employees and students who conduct activities in or oversee operations of a laboratory as that term is defined in this Policy.

Definitions

Laboratory: Any physical space that is owned or operated by the University of Vermont, for teaching or research purposes, that is equipped to conduct experiments, tests, investigations, or other activities, which may expose humans, animals, or the environment to chemical, radioactive, biological or other physical hazards, such as laser, electrical or mechanical hazards. Physical spaces that may be considered to be laboratories include scientific laboratories, greenhouses, farm buildings, field research stations, fine art studios, and theater stage design workspaces, as well as those areas that support the foregoing through storage, shipping or transportation of these hazards.

Potentially Hazardous Materials or Energy: Any substance or material that could adversely affect the safety of the public, handlers, or carriers during transportation. Examples of potentially hazardous materials or energy include but are not limited to:

- Biological or infectious materials used at biosafety levels 1, 2 & 3;
- Bloodborne pathogens;
- Chemicals that are flammable, corrosive, toxic, pyrophoric, or create inhalation or environmental hazards;
- Compressed gases;
- Controlled substances (US DEA);
- Homeland security chemicals of interest (Select Agents and CFATS);
- Ionizing radiation or X-ray devices;
- Nanoparticles;
- Recombinant DNA

Potentially Hazardous Operations: A function that may present hazards to human life and health. Examples of potentially hazardous operations include but are not limited to:

- Electrical, hydraulic, and other high energy systems;
- Ergonomics, tripping, and general housekeeping;
- Farm and animal hazards;
- Field and vehicle hazards;
- Fire and life safety in laboratories;
- Lasers (class 1 systems, class 2, 3 & 4 lasers);
- Noise;
- Shipping, receiving, and transporting hazardous materials;
- Water, diving, boat hazards;
- Power equipment and tools.

Safety Personnel: For purposes of this Policy, those employees of the University who perform risk and safety audits of laboratory facilities, including without limitation, employees of the Department of Environmental Health & Safety (EHS), and Police Services.

Procedures

While every research and teaching laboratory may have differing specific requirements for what is needed to ensure a healthy and safe working and learning environment, the University acknowledges that there are some requirements common to all. The health and safety requirements for all laboratories must include these general requirements:

1. Adequate training and supervision of persons working in laboratory spaces;
2. Initial and periodic risk assessments, inspections, and corrective action planning;
3. Provision of personal protective equipment, as applicable, to those conducting activities in laboratories;
4. Established requirements for procuring, using, transporting, and disposing of potentially hazardous materials and energy, as applicable;
5. Established requirements for responding to incidents and emergencies; and
6. Clearly assigned roles and responsibilities.

Specific requirements depend on the materials, equipment, and environmental factors unique to each laboratory.

Generally, all University employees are responsible for adhering to applicable safety policies, procedures, laws, and rules, for promoting the safety of co-workers, and for protecting the local environment. Employees

must report to their supervisors or other institutional reporting authorities and correct, if possible, all safety and environmental concerns immediately. Supervisors, chairs, and deans have additional responsibilities as articulated below.

Failure to follow applicable safety requirements for the specific laboratory spaces in which a University employee works, or for which they have supervisory responsibility, may result in disciplinary action, up to and including closure of the laboratory, banning individuals from laboratory spaces, termination of funding, and/or termination of employment. Disciplinary provisions for represented employees shall follow those policies contained in existing collective bargaining agreements.

Detailed specific health and safety requirements for research and teaching laboratories and for the potentially hazardous materials and energy used in these laboratories, as updated from time to time, must be followed. These detailed requirements are incorporated by reference into this Policy; therefore, they have the same force and effect as this Policy. Current requirements as well as required forms, contact information, and related documents can be found on the University's EHS web page at <https://www.uvm.edu/riskmanagement/safety> and in particular in the University's Laboratory Safety Program at <https://www.uvm.edu/riskmanagement/safety-laboratories>.

The University's commitment to health and safety can only be successful if individual members of the University community do their part by accepting responsibility for developing and practicing safety awareness. Individuals shall report unsafe conditions, accidents, and chemical spills or exposures to their supervisor or by following the procedures at <https://www.uvm.edu/riskmanagement/incident-claim-reporting-procedures>. The University prohibits retaliation for good faith reporting of safety issues. All current procedures related to the handling hazardous situations and materials shall be followed conscientiously. Any member of the campus community has the authority and ability to stop work if they believe that continuation of the work poses an imminent danger to their safety or health or that of people in the vicinity.

Specific roles and responsibilities for those engaged in laboratory activities are as follows:

Vice Presidents and Deans:

- Support and encourage a culture of safety and the use of best practices in laboratory protocols and procedures;
- Ensure that culture of safety and best practices are implemented and enforced in academic and administrative units for which they are responsible.

Department Chairs and Directors:

- Support and encourage a culture of safety and the use of best practices in laboratory protocols and procedures;
- Implement and enforce those procedures in their academic or administrative units;
- Communicate expectations to those charged with the supervision of laboratories.

Faculty members, principal investigators, and others responsible for directly, or indirectly, supervising labs:

- Support and encourage a culture of safety and the use of best practices in laboratory protocols and procedures;
- Routinely and regularly communicate safety and health as a core value;
- Understand the risks and requirements associated with the laboratories they oversee;
- Assure that appropriate precautions are taken against hazards and unsafe practices;
- Make available proper personal protective equipment to all personnel;
- Require that workplace equipment and machinery is routinely maintained;
- Confirm that required medical surveillance of impacted employees is conducted;
- Verify that regular safety inspections are performed and documented; and

- Ensure that students and employees receive job and hazard-specific safety training.

UVM employees, visitors, students, and everyone else authorized to conduct activities in University of Vermont laboratories:

- Take appropriate and necessary steps to protect themselves and others from obvious hazards
- Abide by safe work practices;
- Observe safety-related directions;
- Be familiar with University emergency responses plans;
- Be proactive in learning about potential hazards associated with their work; and
- Use personal protective equipment and engineering controls appropriate to their work.

The Department of Risk Management and Safety, as well as the Offices of Research Protection, Animal Care and Radiation Safety:

- Provide central support for the interpretation of safety and environmental regulations;
- Provide interpretation of requirements of funding agencies;
- Aid in developing programs to support regulatory obligations related to safety;
- Participate in related training;
- Provide hazard identification, risk assessment, and exposure monitoring services; and
- Assist with the coordination of emergency response with outside agencies.

Researchers must assure that protocols are reviewed and approved as necessary by the appropriate safety and technical committees.

Oversight & Corrective Action

Any laboratory audit or inspection, and any subsequent site visits, conducted by University Safety Personnel, in which violations to University Policies, Procedures or applicable laws, regulations, or codes are identified will result in documentation and notification of this non-compliance to the laboratory supervisor and/or principal investigator (PI). The University expects the laboratory supervisors and/or PI to take swift action to correct serious safety hazards and non-compliance issues. In all cases, the Director of Environmental Health and Safety, Laboratory Safety Manager, University Police, the Director of Compliance Services, the Vice President of Research, or the Chief Safety and Compliance Officer all have the authority to, at their sole discretion, close a laboratory should hazardous conditions present an imminent threat of injury to employees or students, or significant damage to University property or the environment. Where possible, this action should follow consultation with the PI or laboratory supervisor. In any event, immediate notice of such closure will be sent to the responsible official for this Policy, together with the applicable Chair, Director, and Dean. Uncorrected safety and compliance issues, in general, will be reported to the Chair, Director, and Dean, as well as the Vice President for Research, and the Director of Compliance Services. The cost of correcting safety and related compliance issues shall ordinarily be the responsibility of the academic unit, division, department, college, or school; however, application may be made to the Provost and Senior Vice President and to the Chief Safety and Compliance Officer for funding assistance.

Contacts

Questions concerning the daily operational interpretation of this policy should be directed to the following (in accordance with the policy elaboration and procedures):	
Title(s)/Department(s):	Contact Information:
Department of Environmental Health and Safety	(802) 656-3242 safety@uvm.edu
Radiation Safety Office	(802) 656-2570 radsafe@uvm.edu
Ethics and Compliance Reporting and HelpLine	www.uvm.edu/compliance/helpline

Forms/Flowcharts/Diagrams

- [UVM Laboratory \(HCOC\) Inventory](#)

Related Documents/Policies

- [Laboratory Environmental Management Plan for Disposal of Chemical Wastes](#)
- [Laboratory Safety & Chemical Hygiene Plan](#)
- [UVM Exposure Control Plan for Bloodborne Pathogens](#)
- [UVM Policy on Bloodborne Pathogens Exposure Control \(PDF\)](#)

Regulatory References/Citations

- U.S. Occupational Safety & Health Administration (OSHA): 29 CFR§1910 (General Industry standards) especially 1910.1450 Occupational exposure to hazardous chemicals in laboratories; 1910.1030 Bloodborne pathogens; and 1910.1200 Hazard Communication.
- OSH Act of 1970: (5)(a)(1) Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees (General Duty Clause).
- U.S. Drug Enforcement Agency: 21 CFR§1300-1399 Controlled Substances.
- U.S. Department of Homeland Security: 6 CFR§27 Chemical Facility Anti-Terrorism Standards.
- U.S. Centers for Disease Control and Prevention and U.S. Animal and Plant Health Inspection Services: 42 CFR§73 Select Agents and toxins.
- U.S. Department of Energy: 10 CFR§20 and Vermont Department of Health Radioactive Materials Program: Radiation exposure limits and licensure (Nuclear Regulatory Commission).
- U.S. Environmental Protection Agency: 40 CFR§311-313 Emergency Planning and Community Right-To-Know.
- U.S. Environmental Protection Agency 40 CFR§720 Toxic Substance Control Act.
- U.S. Environmental Protection Agency 40 CFR§260-272 Hazardous Waste Management and VT Department of Environmental Conservation Hazardous Waste Management Regulations.
- Department of Transportation and International Air Transport Association: 49 CFR§100-199 and IATA DGR Hazardous Material Shipping.
- Department of Health and Human Services, National Institutes of Health: NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules.

Training/Education

Training/education related to this policy is as follows:

Training Topic:	Laboratory Safety		
Training Audience:	All personnel working in UVM laboratories	Delivered By:	Risk Management & Safety, Research Protections Office
Method of Delivery:	In-Person, On-Line, and Hybrid. www.uvm.edu/riskmanagement/train-and-inform-lab-personnel	Frequency:	Some annual requirements

About this Policy

Responsible Official:	Chief Safety & Compliance Officer	Approval Authority:	President
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