

# Construction Safety Program

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# Introduction

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## I. Purpose

The purpose of the University of the District of Columbia (UDC) Construction Safety Program is to ensure that all Contractors perform work in a manner compliant with all environmental health and safety laws and regulations governed by federal, local and University standards.

## II. Scope

University Contractors performing construction type work are responsible for adhering to the provisions of the University of the District of Columbia's Construction Safety Program, which has been prepared for self-protection and the protection of the University's students, faculty, staff and property.

## III. Applications

This program is applicable to all University contractors that are performing construction type work for the University.

## IV. Responsibilities

All Contractors who provide services to UDC are required to follow all federal and local regulations and laws as well as UDC policies. This program shall be provided to all construction workers to aid in the communication of hazard information for University properties and to outline UDC's environmental health and safety issues. All Contractors are expected to implement their environmental health and safety programs in accordance with federal and local regulations and provide applicable documents to Risk Management prior to commencing work.

## V. Definitions

**Asbestos:** Any of a group of fibrous silicate minerals that are highly resistant to heat and chemically inert, formerly used in fireproof curtains, protective clothing, felt, plaster, roofing materials, etc, but now known to cause asbestosis and lung cancer.

**Confined Space:** Any enclosed space where there is a risk of death or serious injury from hazardous substances or dangerous conditions. This applies not only to the confined space, but also to the area nearby.

**Demolition:** The tearing-down of buildings and other structures.

**Excavation:** The digging or removal of soil, rocks, etc., resulting in a cavity, trench, or depression in the Earth's surface.

**Hot Work:** Cutting and welding operations for construction/demolition activities that involve the use of portable gas or arc welding equipment.

**Lockout:** The use of keyed or combination security devices ("locks") to stop the unwanted activation of electrical or mechanical equipment.

**Mold:** A type of fungus; molds are plants that make spores instead of seeds which float in the air like pollen. They are a common trigger for allergies. Molds are found in damp areas as well as in the outdoor environment.

**Personal Protective Equipment:** Any protective clothing, goggles, or other gear designed to protect the body or clothing from injury by electrical hazards, chemicals, heat, and infection, for job-related occupational safety and health purposes.

**Pneumatic Tools:** Any tools that are driven by compressed air.

**Powder-Actuated Tools:** Fastening devices used in the construction and manufacturing industries to join materials to hard substrates like steel and concrete.

**Slip:** The creation of a hazard by which there is too little friction between footwear and surface.

**Tagout:** The use of tags with locks to increase visibility and alertness that equipment is not to be activated or energized until devices are removed. Tags are to be non-reusable, not easily removed, attachable by hand, and self-locking.

**Trip:** A hazard created by your foot striking an object causing you to lose balance a maybe eventually falling.

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# **Factsheets**

# Asbestos

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## **Purpose:**

To prevent the disturbance of asbestos containing materials during construction, repairs or renovations at the University of the District of Columbia.

## **Responsibilities:**

The Contractor shall:

- Determine if asbestos-containing materials are present in the work area and whether it will be disturbed by the planned work.
- Be provided with the location and quantity of asbestos or potential asbestos containing materials prior to the start if work area may be impacted.
- Avoid touching or disturbing suspicious materials on walls, ceilings, pipes, or etc.
- Not drill holes in materials that contain asbestos.
- Not access areas above the ceilings before finding out if the area contains asbestos materials.
- Not sand asbestos floor tiles or backing material.
- Not sweep or brush ceilings covered with asbestos materials.
- Notify Risk Management immediately if there is suspected asbestos-containing material that is crushed or damaged in any way.

## **Regulations:**

- **OSHA 29 CFR 1915.1001:** Asbestos Shipyard
- **OSHA 29 CFR 1926:** Construction Standards
- **OSHA 29 CFR 1910.1001:** Occupational Safety and Health Standards

# Fall Protection

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**Purpose:** To inform contractors of their responsibilities while performing activities greater than six feet higher than their surroundings.

Examples:

- Scaffolds
- Aerial lifts
- Roofs
- Ladders
- Excavations sites

## **Responsibilities:**

The Contractor shall:

- Adhere to OSHA workplace safety regulations.
- Provide Risk Management with their fall protection program.
- Ensure that all employees are trained and aware of potential fall hazards on the site.
- Maintain fall protection equipment in a safe and clean condition.
- Cover all open holes, trenches, or excavation, and have guardrails, midrails and toerails installed around them.

## **Regulations:**

- **OSHA 29 CFR 1926 Subpart M:** Fall Protection
- **OSHA 29 CFR 1910 Subpart D:** Walking-Working Surfaces
- **OSHA 29 CFR 1910 Subpart F:** Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms
- **OSHA 29 CFR 1926 Subpart L:** Scaffolds
- **OSHA 29 CFR 1910.67:** Vehicle-mounted elevating and rotating work platforms
- **OSHA 29 CFR 1926.453:** Aerial lifts

# Lockout/Tagout

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## **Purpose:**

To adhere to OSHA regulations requiring contractors or employees to prevent injuries from the release of stored energy in machines, processes, or equipment.

Examples of energy sources:

- Electrical
- Mechanical
- Steam
- Chemical

## **Responsibilities:**

The Contractor has the following responsibilities during lockout/tagout:

### Removing equipment from service:

- Identify all energy sources and their magnitude.
- Look for all hidden energy sources. (Note: Equipment may contain more than one type of energy.)
- Notify all users that equipment is out of service.
- Shut down equipment through normal shut down procedures.
- Isolate the equipment from its energy source. This may include closing valves, opening switches or operating other energy isolation devices.
- Dissipate or secure stored energy.
- Apply their lock to the energy isolation device. Always provide a completed tag with each lock. Each individual working on the equipment must install their lock.
- Insure that no one is exposed to danger, and then verify all energy sources are isolated.
- Start the equipment's normal controls to ensure the equipment will not operate.

### Restoring the Equipment after Work is Completed

- Check the area around the equipment to ensure that no one is exposed to danger after maintenance is complete.
- Remove all tools and/or loose parts from the equipment.
- Replace all safety features such as guards and shield.
- Remove the tag and lockout devices. Each person must remove their lock.
- Operate the energy isolation device to restore energy to the equipment.
- Notify users that all work is complete and that equipment has been returned to service.

## **Regulations**

- **OSHA 29 CFR 1910.147:** The control of hazardous energy (lockout/tagout)
- **OSHA 29 CFR 1926.417:** Lockout and tagging of circuits



## Confined Spaces

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### **Purpose:**

To make contractors aware of OSHA regulations regarding confined spaces while performing activities in an enclosed area with a single entrance, where harmful vapors, fumes or dust may accumulate, and oxygen may be deficient atmosphere may occur.

### **Examples:**

- Boiler Rooms
- Manholes
- Crawlspace
- Tanks

### **Responsibilities:**

The Contractor shall:

- Provide Risk Management with a scope of work.
- Develop written entry practices and procedures.
- Enter confined spaces only after receiving training.
- Be aware of the potential hazards during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Not smoke in a confined space.
- Provide adequate lighting.
- Use the proper personal protective equipment necessary for safe entry.
- Use NEC approved electrical equipment in the confined space if a hazardous atmosphere is present.
- Eliminate unsafe conditions before the entrance cover is removed.
- Promptly guard the opening to avoid accidental falls and prevent objects from falling into the opening.
- Protect workers with appropriate vehicles and pedestrian barriers.

### **Regulations:**

- **OSHA 29 CFR 1910.146:** Permit-required confined spaces
- **OSHA 29 CFR 1926.353(b):** Ventilation and protection in welding, cutting, and heating

# Hazardous Waste Management

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## **Purpose:**

To inform contractors of federal and local regulations regarding the storage, handling, transportation and disposal of hazardous waste generated at the University.

## **Examples:**

- Fluorescent light ballast
- Mercury containing lamps
- Solvents & Adhesives
- Construction debris

## **Responsibilities:**

The Contractor shall:

- Identify all potential hazardous wastes associated with planned activities.
- Execute their Hazardous Waste Program.
- Ensure no waste is left abandoned.
- Comply with all local and federal regulations for hazardous waste materials.
- Prior to transportation and disposal, provide Risk Management with copies of all transportation, storage, and disposal records.

## **Regulations:**

- **EPA 40 CFR 260-273:** Hazardous Waste
- **20A DCMR Chapters 40-54:** Solid Waste
- **OSHA 29 CFR 1910 Subpart H:** Hazardous Materials

# Mold

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## **Purpose:**

To provide guidance to contractors involved in mold remediation and cleanup.

## **Responsibilities:**

Contractors have the responsibility to:

### For the Prevention

- Inspect for condensation and wet spots.
- Prevent moisture due to condensation by increasing surface temperature or reducing the air humidity.
- Keep heating, ventilation, and air conditioning drip pans clean, flowing properly, and unobstructed.
- Vent moisture-generating appliances outside.
- Maintain low indoor humidity.
- Clean and dry wet or damp spots within 48 hours.
- Do not allow foundations to stay wet. Provide drainage and slope the ground away from the foundation.

### For the Remediation

- Fix the water or humidity problem.
- Store material in impervious plastic to control spore dispersion.
- Completely clean up mold and dry water-damaged areas using appropriate cleaning and drying methods for damaged/ contaminated materials.
- Store materials in impervious plastic to control spore dispersion.
- Carefully contain and discard moldy building materials using appropriate Personal Protective Equipment (PPE).

## **Regulations:**

- **EPA:** Indoor Air Quality
- **ANSI 62-2001:** Ventilation for Acceptable Indoor Air Quality
- **OSHA 1910 Section 5:** General Duty Clause
- **NIOSH/CDC:** Building Air Quality

# Hazard Communication

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## **Purpose:**

To inform contractors of their responsibility to communicate any hazards presented by chemical, radiological, and biological materials.

## **Responsibilities:**

The Contractor shall:

- Have access to and provide Risk Management with Safety Data Sheets (MSDS) for all chemicals.
- Have an effective hazard communication program.
- Obtain approval from Risk Management for the temporary storage of any hazardous materials.
- Ensure all hazardous material spills are contained and clean-up immediately.
- Notify Risk Management if there is a hazardous material spill
- Notify Risk Management immediately in the event that a hazardous material is on the work site.

## **Regulations:**

- **OSHA 29 CFR 1910.1200:** Hazard Communication.
- **OSHA 29 CFR 1926.59:** Hazard Communication.
- **NFPA 20:** Flammable and Combustible Liquids
- **NFPA Life/Fire Code:** Construction Storage

## **Cranes, Hoists, and Lifts**

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### **Purpose:**

To inform contractors of their responsibility to eliminate potential hazards that are associated with the use of cranes, hoists and lifts.

### **Responsibilities:**

The Contractor shall:

- Ensure that operators are trained certified and licensed to operate the cranes, hoists, and lifts.
- Ensure that the equipment is inspected and tested monthly by a responsible individual and that rigging equipment is inspected annually.
- Do not operate any malfunctioning or damaged equipment.
- Do not lift more than rated load for the hoist.
- Do not use hoist with twisted, kinked, damaged, or worn load chain or wire rope.
- Do not use to lift, support, or transport people.
- Do not lift loads over people.
- Ensure persons are and remain clear of the supported load.
- Do not operate unless load is centered under hoist.
- **Ensure equipment is returned to the original position when not in use.**

### **Regulations:**

- **OSHA Standard 29 CFR 1910.179:** Overhead and Gantry cranes
- **OSHA Standard 29 CFR 1910.180:** Crawler Locomotive and Truck Cranes.
- **OSHA Standard 29 CFR 1910.181:** Derricks

## **Noise and Hearing Conservation**

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### **Purpose:**

To ensure the contractors are adhering to local and federal regulations regarding noise and hearing conservation.

### **Responsibilities:**

The Contractor shall:

- Implement a hearing conservation program when employees are exposed to 85 dB or more in an 8 hour day.
- Implement administrative or engineering noise controls when levels exceed 90 dB.
- Provide Risk Management with their noise & hearing conservation plan to address how you will comply with local and federal regulations.

### **Regulations:**

- **OSHA 29 CFR 1910.95:** Occupational noise exposure.
- **DCMR Subtitle C, Chapters 27-30:** Title 20 DC Municipal Regulations

## **Personal Protective Equipment (PPE)**

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### **Purpose:**

To provide guidance to contractor to meet Risk Management expectations regarding PPE while providing services to UDC.

### **Responsibilities:**

The Contractor shall:

- Provide all required PPE.
- Provide PPE that properly fits each affected employee.
- Shall provide training on the use of specific PPE including documented proficiency testing.
- Conduct a hazard assessment to determine if hazards require the use of PPE.
- Provide a copy of all hazard assessments to Risk Management related to PPE use.
- Not use defective or damaged PPE.

### **Regulations:**

- **OSHA 29 CFR 1910 Subpart I:** Personal Protective Equipment
- **OSHA 29 CFR 1910.95(K)(1)-(3):** Occupational noise exposure
- **OSHA 29 CFR 1926.52:** Occupational noise exposure
- **OSHA 29 CFR 1926 Subpart E:** Personal Protective and Life Saving Equipment

# Excavation

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## **Purpose:**

To establish guidelines relating to safety on excavation sites at the University of the District of Columbia

## **Responsibilities:**

The Contractor shall:

- Be knowledgeable of hazards associated with excavation such as utilities, egress and fall protection.
- Receive approval from the utility providers and submit permit to Risk Management.
- Ensure that all workers are fully trained to work in or around site Risk Management.
- Ensure that the excavation or trench is supported or sloped as regulated by OSHA requirements.
- Control traffic with barricades, signs, etc as needed to control both pedestrian and vehicular traffic.
- Utilities near the excavation site must be protected and precautions taken if any utility will be affected by the work.
- Use required personal protective equipment (PPE).
- Keep area around trench or excavation free of surface encumbrances.
- Provide ladders for access and egress to the excavation.

## **Regulations:**

- **OSHA 29 CFR 1926.650:** Scope, application, and definitions applicable to this subpart
- **OSHA 29 CFR 1926.651:** Specific Excavation Requirements.
- **OSHA 29 CFR 1926.652:** Requirements for protective systems.

## **Contacts:**

- **Washington Area Sewer Authority (WASA):** 202-787-2057
- **Miss Utility:** 1-800-257-7777
- **Campus Services:** 202-274-5865



# Ladder Safety

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## **Purpose:**

To inform contractors of potential hazards associated with the use of ladders.

## **Responsibilities:**

The Contractor shall:

- Inspect ladder prior to use for any defects.
- Not use chairs or other furnishings instead to do elevated work. Ladders must be utilized.
- Remove ladders that are broken or missing rungs from use.
- Be secured against displacement.
- Lash ladders together.
- Not use metal ladders in areas that may contact electrical circuits or lines.
- Keep ladders free of oil or grease.
- Not move, shift, or extend while in use.

## **Regulations:**

- **OSHA Standard 29 CFR 1926.1053:** Ladders
- **OSHA Standard 29 CFR 1917.118:** Fixed Ladders
- **OSHA Standard 29 CFR 1910.27:** Walking-Working Surfaces
- **OSHA Standard 29 CFR 1910.25:** Portable wood ladders.
- **OSHA Standard 29 CFR 1910.26:** Portable metal ladders.

# General Electrical Safety

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## **Purpose:**

To inform contractors of their responsibilities associated when working with or near electrical systems.

## **Responsibilities:**

The Contractor shall:

- Comply with all local and federal safety requirements.
- Ensure that all personnel are trained in the hazards associated with electricity.
- Identify any potential sources of electrical energy that may cause injury or death.
- Ensure the use of proper PPE.
- Not work near electric circuits unless the circuit is de-energized, grounded or insulated.
- Ground all equipment cords and plugs.
- Conspicuously post warning signs forbidding entry near entrances to rooms and other locations containing exposed live parts.
- Follow Lockout/Tagout procedures.

## **Regulations:**

- **OSHA 29 CFR 1910 Subpart S:** Electrical
- **OSHA 29 CFR 1926 Subpart K:** Electrical
- **OSHA 29 CFR 1910.137:** Electrical protective devices.
- **OSHA 29 CFR 1910 Subpart I:** Personal Protective Equipment

## Compressed Gas Cylinders

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### **Purpose:**

To ensure the safe use and handling of compressed gas cylinders as regulated while performing work at the University of the District of Columbia.

### **Responsibilities:**

The Contractor shall:

- Ensure personnel has been trained in the usage and handling of compressed gas cylinders.
- Verify compressed gas cylinders are clearly identified with contents.
- Keep valve protection caps in place during storage or moving of compressed gas cylinders.
- Ensure that cylinder valves are closed and valve covers are replaced after the completion of work or when not in use.
- Secure gas cylinders in an upright position.
- Secure gas cylinder on an approved carrier.
- Not store cylinders containing flammable gases in close proximity to open flames, where electrical sparks are generated or where sources of ignition may be present.
- Ensure cylinders are shielded or at a safe distance away from welding and cutting projects.
- Immediately report leaking gas cylinders to Risk Management.
- Segregate and label empty and full cylinders.

### **Regulations:**

- **OSHA 29 CFR 1910.101:** Compressed gases (general requirements).
- **CGA Part C-1 thru V-1-12-AMD:** Compressed Gas Association Standards

# Pneumatic Tools

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## **Purpose:**

To make contractors aware of hazards present during the use of pneumatic tools.

## **Responsibilities:**

The Contractor shall:

- Ensure all personnel are fully trained and aware of potential hazards associated with pneumatic tools.
- Review the manufacturer's guide prior to using a tool.
- Wear all applicable PPE.
- Post warning signs where pneumatic tools are used. Set up shields to prevent nearby workers from being exposed to flying debris.
- Ensure that the compressed air clean and dry.
- Use only the attachments that the manufacturer suggests for the tools.
- Lessen physical fatigue by supporting heavy tools with a counter-balance wherever possible.

## **Regulations:**

- **OSHA 29 CFR 1910 Subpart P:** Hand and Portable Powered Tools and Other Hand-Held Equipment
- **OSHA 29 CFR 1910.241:** Definitions
- **OSHA 29 CFR 1910.242:** Hand and portable powered tools and equipment, general.
- **OSHA 29 CFR 1910.243:** Guarding of portable powered tools.
- **OSHA 29 CFR 1910.244:** Other portable tools and equipment.

## **Welding, Cutting, and Other Hot Work**

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### **Purpose:**

To minimize or eliminate fire hazards associated with hot work operations.

### **Responsibilities:**

The Contractor shall:

- Comply with all local and federal safety requirements associated with welding, cutting, and other hot work.
- Ensure personnel have been fully trained in the hazards of
- Not conduct work in any area other than those specifically intended and designed for conducting work unless a Permit had been issued.
- Use only approved equipment
- Not light torches off hot metal.
- Not point torches towards people or combustible materials when igniting.
- Position equipment outside confined spaces in such a manner that it will not interfere with egress.
- Have the proper fire extinguishers in close proximity to where work is being performed.
- Audit site for at least 30 minutes following the completion of work to extinguish any possible smoldering fires.

### **Regulations:**

- **OSHA 29 CFR 1910, Subpart Q:** Welding, Cutting, and Brazing
- **OSHA 29 CFR 1926, Subpart J:** Welding and Cutting

## **Powder-Actuated Tools**

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### **Purpose:**

To reduce the risk of injuries involving the use of powder actuated tools.

### **Responsibilities:**

The Contractor shall:

- Ensure the personnel that operate powder-actuated tools are properly trained in their usage and carry a valid operator's card provided by the manufacturer.
- Store the tools in their respective locked container when not in use.
- Inspect tools daily before use for damage or defects.
- Ensure personnel are wearing appropriate PPE including shields to protect workers against ricocheting objects.
- Leave powder-actuated tools stored until ready for use.
- Load powder-actuated tools just prior use.
- Not carry loaded tools from site to site.
- Not leave loaded powder-actuated tools unattended.
- Not allow onlookers near the work area.
- Post signage when powder-actuated tools are in use.

### **Regulations:**

- **OSHA 29 CFR 1926.302(e):** Power-operated hand tools.

## Slips, Trips and Falls

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### **Purpose:**

To reduce the risk of injuries resulting by ensuring that the contractor identifies and eliminates any areas that could potentially have a slip or trip hazard.

### **Responsibilities:**

The Contractor shall:

- Keep floors clean and dry.
- Provide warning signs for wet floor areas.
- Maintain drainage in area where there are wet processes.
- Keep exits, aisles and passageways clear with no obstruction at all times.
- Use waterproof footwear when working in wet areas.
- Keep work areas free of clutter and obstructions.
- Provide adequate lighting especially during night activities.

### **Regulations:**

- **OSHA 29 CFR 1910.36:** Design and construction requirements for exit routes.
- **OSHA 29 CFR 1910.22:** General Requirements
- **OSHA 29 CFR 1910.145(c)(2):** Specifications for accident prevention signs and tags.
- **OSHA 29 CFR 1910.141(a)(3)(ii):** Sanitation
- **OSHA 29 CFR 1910.36(b)(4):** Design and construction requirements for exit routes.

# Demolition

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## **Purpose:**

To ensure that procedures are in place to identify issues related to the demolition of campus projects

## **Responsibilities:**

The Contractor shall:

- Receive approval from Risk Management prior to start of demolition.
- Ensure that all employees are trained in demolition safety.
- Ensure that employees using demolition equipment are trained.
- Provide all employees with adequate PPE.
- Ensure all utilities are shut off or capped before starting work.
- Rope off or barricade the demolition site and place signs to restrict access by the public.

## **Regulations:**

- **OSHA 29 CFR 1926 Subpart T:** Demolition
- **OSHA 29 1926.100:** Head protection
- **OSHA 29 1926.134:** Respiratory protection
- **OSHA 29 1926.350:** Gas welding and cutting
- **OSHA 29 1926.501:** Duty to have fall protection
- **OSHA 29 1926.502:** Fall protection systems criteria and practices
- **OSHA 29 1926.503:** Training requirements
- **ANSI A10.6-1983:** Safety Requirements for Demolition Operations



# Radiation Safety

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## **Purpose:**

To ensure contractors are informed of their requirements to follow all radiation safety rules applicable to radioactive material and radiation sources at the University. Radiation safety will be under the direction of the Radiation Safety Officer, including all other applicable regulations as stated by the Nuclear Regulatory Commission (NRC) and D.C. regulations.

## **Responsibilities:**

The Contractor shall:

- Provide the Radiation Safety Officer with written information to review if the project involves radioactive material.
- Provide registration and licenses applicable to required work.
- Request approval to work on or near radiation sources and/or equipment possessing labeled with the radiation warning symbol, "Caution Radioactive Material".

Examples of where radioactive labels may be found:

- Laboratories
- X-Ray equipment
- Posted sinks, refrigerators, fume hoods

## **Regulations:**

- **U.S. Nuclear Regulatory Commission, 10 CFR** Parts 19, 20, 21, 30, 33, 34, 36, 40 & 71
- **49 CFR**, Subchapter C Department of Transportation
- **Title 40:** Environmental Protection Agency regulations and statutes
- **DCMR Title 20 Chapters 20-22:** Radiation Protection Standard: District of Columbia Municipal

## **University Radiation Safety Officer**

Name: Charles Ester

Department: Chemistry

Contact Telephone Number: 202-274-5867