



Berkeley

University of California



# Contractor Safety Manual

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# Disclaimer



This manual is provided by the University of California, Berkeley as a guide to help construction contractors work on the UC Berkeley campus.

Construction contractors are responsible for their own safety program.

The topics highlighted in this manual are reminders and do not replace obligations provided by contract documents. Construction contractors must be aware of their own obligations to comply with local, state and federal regulations as applicable to their work activities on campus.

For clarification or further explanation, please contact your UC Berkeley Project Manager (PM).

***Fill in the space below with your project information:***

**Project Name:**

**PM Name:**

**PM Phone Number:**

**PM Email Address:**



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Delaware St  
Shattuck Ave.  
Walnut St.  
Greenhouse Insectary  
Warren Hall  
Hearst Ave.  
Energy Biosciences Building  
Berkeley Way  
UC Press  
Transit & Charter Services  
University Ave.  
University Relations  
2080 Addison  
Addison St.  
Center St.  
Magnes Collection of Jewish Art and Life  
Allston Way  
Kittredge St.  
Berkeley Conference Center  
Bancroft Way  
Durant Ave.  
Channing Way  
Haste St.  
Fulton St.

UC Berkeley Extension  
1995 University Ave.

Downtown Berkeley  
BART Station

Communications & Network Services  
2484 Shattuck

Physical Plant-Campus Services  
2000 Carleton

Genetics & Plant Biology Greenhouse  
Oxford Research Hall  
Natural Resources Library

Northwest Animal Facility (underground)  
Genetics and Plant Biology  
Morgan  
Hilgard  
Wellman Courtyard Lot  
Wellman  
Giannini  
Haviland

Office of Environment, Health & Safety (EH&S)  
University Hall  
Springer Gateway  
West Circle  
Eucalyptus Grove  
Grimmell Natural Area  
Valley Life Sciences Building (VLSB)

Hellman Tennis Complex  
Edwards Stadium/Goldman Field  
Athletic Ticket Office  
2223 Fulton

Bancroft/Fulton Parking Lot  
Public Affairs  
2298  
2372  
Fang Center (University Health Services)

Atherton  
Jones Child Study Center  
Ellsworth Parking Structure  
Ellsworth St.

CNMAT/McNerney Hall (1750 Arch)  
Spruce St.  
Arch St.  
Le Conte Ave.  
Hearst Ave.

Barker  
Koshland  
Tolman  
North Fork of Strawberry Creek  
West Circle  
South Fork of Strawberry Creek

Life Sciences Addition  
Dwinelle  
Dwinelle Annex  
Haas Pavilion  
Zellerbach  
Eshleman  
2401

Hazardous Materials Facility  
Central Heating Plant  
Evans Diamond  
Kleeberger Field House  
Recreational Sports Facility  
RSR Garage (underground)

Stites Hall  
2440 Bancroft  
Dana/Durant Parking Lot  
Norton  
Spens Black  
Ida Sproul  
Residence Halls Unit 3 Priestley

Clearly Hall (Haste/Channing)  
Fenwick Weavers Village  
Dana St.  
Dwight Way

To Graduate Theological Union  
GTU Library  
Lower Hearst Parking Structure

University House

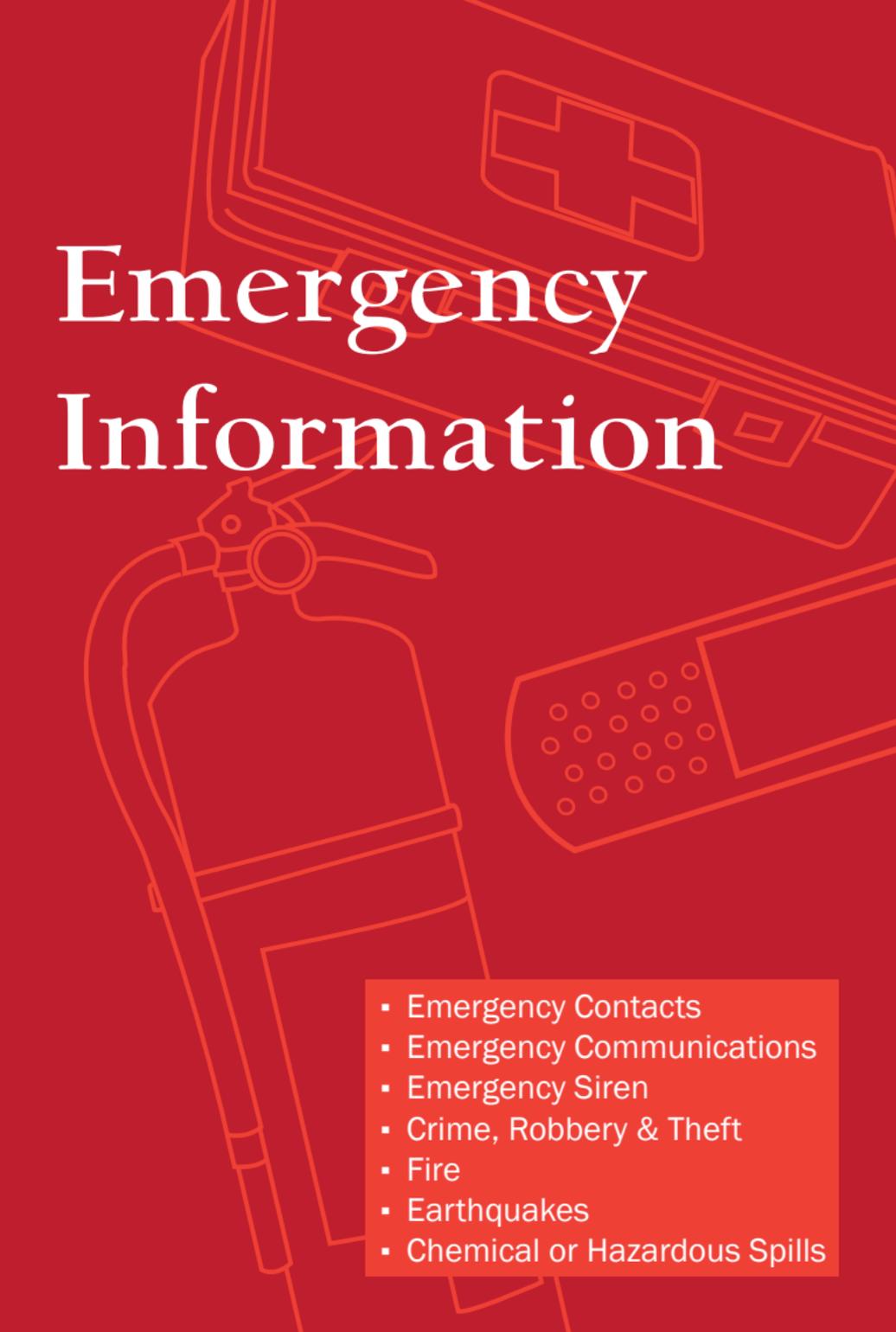
University Hall Parking Structure  
2129 Oxford

Student Union Garage  
2401

Spens Black  
Residence Halls Unit 3 Priestley

Clearly Hall (Haste/Channing)  
Fenwick Weavers Village





# Emergency Information

- Emergency Contacts
- Emergency Communications
- Emergency Siren
- Crime, Robbery & Theft
- Fire
- Earthquakes
- Chemical or Hazardous Spills

# Emergency Contacts



## Life-Threatening Emergency Numbers

From a public or campus telephone: **911**

From a cell phone: **(510) 642-3333**

## Non-Life Threatening Emergency Numbers

University Police: **(510) 642-6760**

Environment, Health & Safety: **(510) 642-3073**

Physical Plant - Campus Services (24 hours):

**(510) 642-1032**

Campus Emergency Information Line: **(800) 705-9998**

## Medical Facilities

Call **911** for an emergency and direct ambulance to work location.

## Radio Stations & Web

KALX Radio Station (UC Berkeley): **90.7 FM**

University Emergency Info Webpage:

**<http://berkeley.edu>** or

**<http://emergency.berkeley.edu>**

Berkeley Radio Station (City of Berkeley): **1610 AM**



# Emergency Communications

## Medical Emergency Services

Call an ambulance. Emergency medical personnel are familiar with the campus and will usually respond very quickly.

Call **911** from a campus phone.

From a cell phone

on or near the UC Berkeley campus      **(510) 642-3333**  
in the city of Berkeley                      **(510) 981-5911**

## Emergency “Blue Light” Telephones

Emergency telephones are identified by a blue light. Free standing phone systems, in tall dark columns or yellow boxes, are topped with a blue light which remains lit at all times.



(See “Campus Map” for Emergency “Blue Light” Telephone Locations)

# Emergency Siren



## **Emergency Sirens are tested on the first Wednesday of each month at 12:00 PM**

The campus tests the alarm system at noon on the first Wednesday of each month as part of its emergency warning system.

When activated during an actual emergency, the siren system will warn of an emergency or a disaster that requires sheltering in-place. The public address system is used during an emergency to inform the campus community and visitors about what has occurred and what to do.

# Crime, Robbery & Theft



## **Emergency Reporting**

If the crime is on campus or University Property, report to:  
**University Police** at **(510) 642-6760** and  
your **UC Berkeley Project Manager**

If the crime occurred off campus, report to:  
**City of Berkeley Police** at **911**



# Crime, Robbery & Theft

## Non-Emergency Reporting

1. Call **University Police (UCPD)** at **(510) 642-6760** (or **2-6760** from a campus phone). This is a non-emergency number.
2. Visit the Police Department at 1 Sproul Hall in the basement (see “Campus Map”).
3. Use CalTip. If you would like to report anonymously, you can submit a brief description using the web form email, CalTip:  
**<http://police.berkeley.edu/caltip/>**.



## Fire

- If you witness a fire burning in a building, pull the closest emergency alarm, and contact **University Police (UCPD)** at **(510) 642-3333**.
- If a fire is outdoors or between buildings, contact **University Police (UCPD)** at **(510) 642-3333** immediately.
- All personnel, including contractors, must evacuate campus buildings upon activation of a fire alarm.

- Know your emergency exit routes and assembly area.
- Leave the premises immediately if you hear a fire alarm. Always close the door to your work area.
- Do not use elevators.
- Go to the assembly area designated by your company's safety plan and report to your safety coordinator.
- You may not re-enter until re-entry has been authorized, even if the fire alarm has stopped sounding.
- The Campus Fire Marshal will release the building for re-entry when deemed safe.

# Earthquakes



## During an Earthquake...

- Drop, take cover and hold on.
- Get down between the rows of seats in a classroom or against the wall in a hallway.
- Avoid windows, hanging objects and tall furniture. Stay covered until the shaking stops and it is safe to move.



# Earthquakes

## After an Earthquake...

- Assist others and remain calm.
- Evacuate to your company's assembly area.
- Never use elevators.
- Turn off gas if you smell it and can find the valve.
- For campus updates, listen to **KALX 90.7 FM**.



## Chemical or Hazardous Material Spills

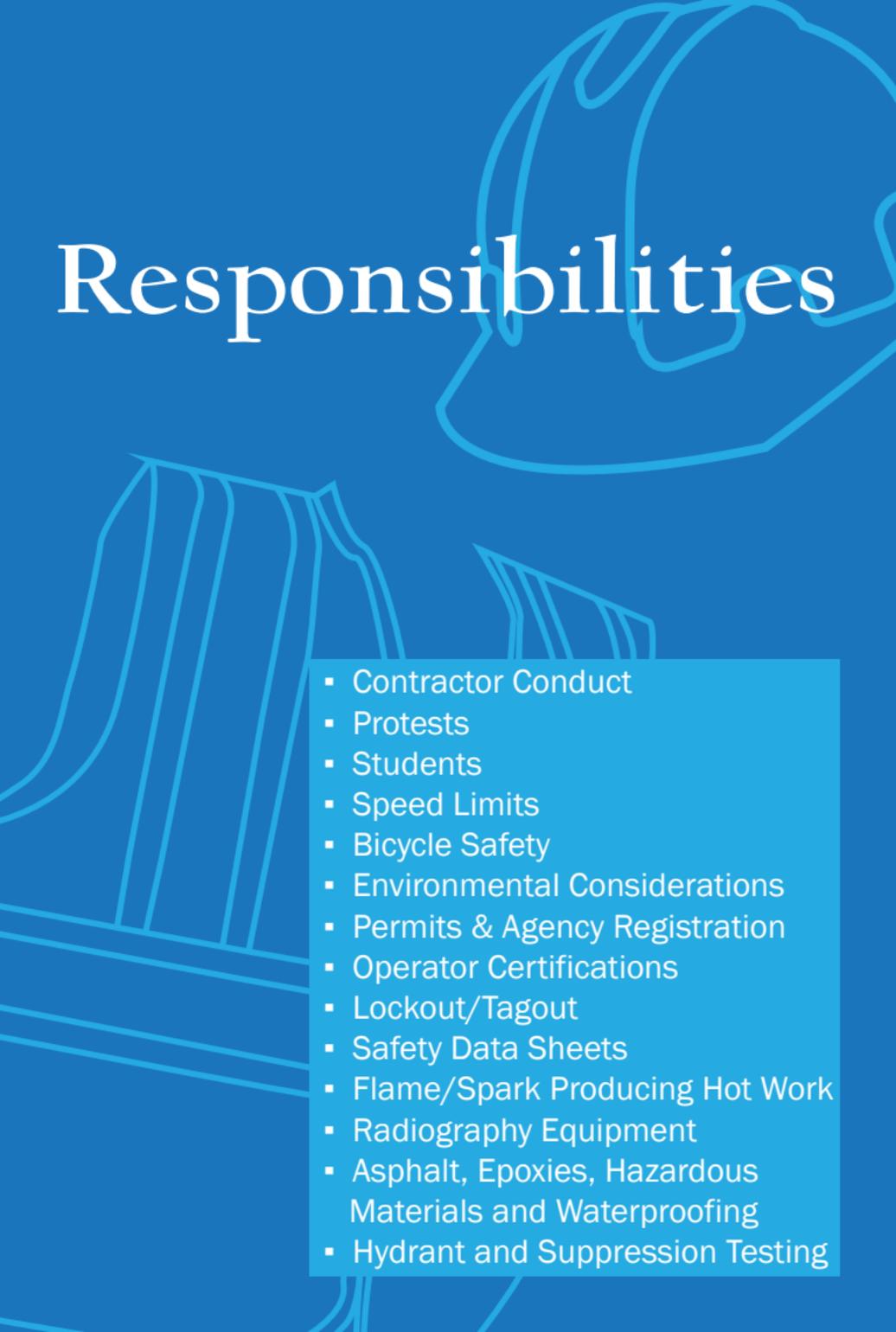
If a spill of hazardous construction materials or chemicals occurs, be sure to cover all drains in the area immediately and attempt to contain the material. It is important that you stop the flow of chemicals from spreading further.

Contact your supervisor or safety officer and alert your **UC Berkeley Project Manager** immediately to report spills.

Your UC Berkeley Project Manager will report the spill to the **Office of Environment, Health & Safety (EH&S)** at **(510) 642-3073**.

After hours and weekends, contact **University Police** at **(510) 642-6760**.

# Responsibilities



- Contractor Conduct
- Protests
- Students
- Speed Limits
- Bicycle Safety
- Environmental Considerations
- Permits & Agency Registration
- Operator Certifications
- Lockout/Tagout
- Safety Data Sheets
- Flame/Spark Producing Hot Work
- Radiography Equipment
- Asphalt, Epoxies, Hazardous Materials and Waterproofing
- Hydrant and Suppression Testing



# Contractor Conduct

Contractors must control the conduct of its employees so as to prevent unwanted interaction by contractor's employees with University students, University staff, and other individuals adjacent to the project site.

Contractors may not consume or possess any alcoholic beverages or illegal drugs, or possess firearms or weapons on University property. Smoking is not allowed anywhere on campus property.



# Protests

- Contractors should avoid any protests or areas of large gatherings.
- Contractors should leave the affected area, and if possible, remove tools, equipment and construction materials.
- If protesters approach your work area, protect yourself and work site by controlling project access points, doors, gates, etc. and call **University Police** at **(510) 642-6760**.

# Students



- Depending on the day, students walking on campus will increase significantly every hour or every hour and a half.
- Contractors must be mindful of all crosswalks, students en route (or traveling) between classes and right-of-ways.

# Speed Limits



Campus speed limit is 15 miles per hour or less depending on location, vehicle and student activity. Regardless of speed limit, contractors must always drive at a speed safe for conditions.

# Bicycle Safety



There are many bicyclists on campus, who may ride on campus roads and paths. Be aware of bicyclists, and use caution, especially when moving vehicles and equipment. Use flaggers as required.

Small spills of oil, sand and other materials on roadways and paths can create a crash hazard and must be cleaned up immediately.



## Prevent Water Pollution on the Job

There are two types of drain systems on campus:

**Sanitary Sewers:** Wastewater generated inside buildings, such as at sinks and toilets, drain to the sanitary sewer. This water is sent to a treatment plant. Most chemicals are prohibited from disposal.

**Storm Drains:** Only clean rain water may go down the storm drain. This means no washdowns with hoses or power washers and zero runoff from work sites. Water will not be treated when it enters storm drains. All water drains directly into Strawberry Creek and to the San Francisco Bay. For special discharge needs, campus approval is necessary. Contact your UC Berkeley Project Manager.

Federal, state, local laws and campus policy prohibit discharging any solids or liquids to storm drains except clean rainwater.

## Spill to the Storm Drain or Sanitary Sewer

Immediately report all spills and polluted water discharges to your Supervisor and **EH&S** at **(510) 642-3073**. If spills occur outside of business hours (8 AM - 5 PM, Monday through Friday), contact **University Police (UCPD)** at **(510) 642-6760**.

## Air Pollution - Dust, Exhaust & Odors

If construction activities are expected to generate dust, a control plan must be developed and approved by your UC Berkeley Project Manager. Dust suppression measures must not result in runoff to drains.

All engine exhaust must comply by California Air Resources Board (CARB) regulations for off-road engines; all vehicles must observe the “no idling” rule.

Pay attention to nearby building air intakes and do not allow pollutants or odors to enter.

## Permits and Agency Registration



It is the contractor’s obligation to identify and obtain what permits and agency notifications are applicable to the work being performed.

- Trenching and excavating
- Operating certain air compressors
- Demolishing buildings
- Asbestos and Lead work
- Sandblasting
- Scaffolding
- Hot Work
- Portable Generators
- Cranes
- Gas testing
- Installing wells
- Compressors
- Confined Space Entry



# Operator Certifications

## For Cranes, Lifts, Elevated Platforms, and Truck Operators

Contractors are responsible for ensuring that proper certifications are maintained for use of such equipment, and that all appropriate inspections and operator training are conducted according to Cal/OSHA regulations.



# Lockout/Tagout

All equipment must be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolation device bearing a lock.



# Safety Data Sheets

Contractors must have material safety data sheets present on site for all chemicals or hazardous materials that are brought to University properties for their work.

# Flame/Spark Producing Hot Work



“Hot work” refers to procedures or operations that produce open flames or generate sparks or hot metal shards. Activities defined as “hot work” include, but are not limited to: welding, brazing, arc cutting, grinding, soldering, oxygen cutting, hot riveting, heat treating, powder-actuated tools, sandblasting, thermal spraying and torch down roofing. Contractors must comply with campus requirements and must implement their own hot work program.

Contractors conducting hot work activities should:

- Protect the general public at or near construction sites from welding arcs and fumes
- Protect existing buildings and mechanical systems from damage due to hot work activities

Contact your UC Berkeley Project Manager for specific requirements.

# Radiography Equipment



Construction Materials testing involving radiography of concrete, steel pipes, welding checks, soil density meters and similar testing using radioactive sources, or radiation producing machines must be performed with approval from the UC Berkeley EH&S Radiation Safety Team.

Contact your UC Berkeley Project Manager to review site specific needs with EH&S to schedule an appointment with the **Campus Radiation Safety Officer** at **(510) 642-3073**.



## Asphalt, Epoxies, Hazardous Materials and Waterproofing

Notify your UC Berkeley Project Manager when using waterproofing, solvents, paving or roofing materials that may cause odor impacts to surrounding buildings.

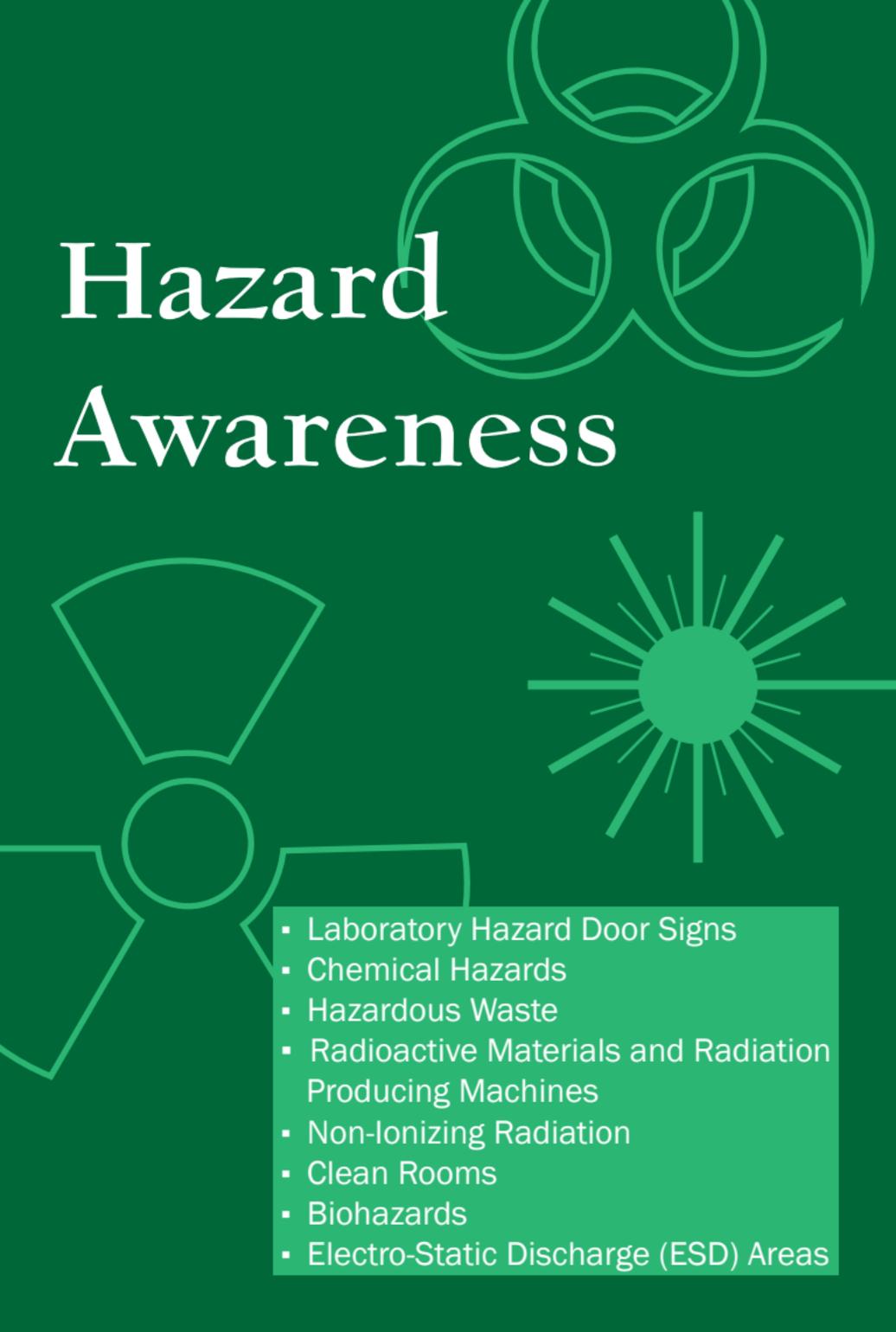


## Hydrant and Suppression Testing

Hydrant and fire suppression system testing water must be managed according to State Water Quality Control Board regulations. Discharges to stormwater systems can result in environmental damage and require extra filtration and dechloramination.

Coordinate with your UC Berkeley Project Manager to review site specific needs with EH&S and arrange for acceptable conditions for discharging water or using dyes.

# Hazard Awareness



- Laboratory Hazard Door Signs
- Chemical Hazards
- Hazardous Waste
- Radioactive Materials and Radiation Producing Machines
- Non-Ionizing Radiation
- Clean Rooms
- Biohazards
- Electro-Static Discharge (ESD) Areas



# Laboratory Hazard Door Signs

Laboratory chemical door signs are posted outside of rooms and laboratories that use or store chemicals on campus. They indicate room chemical quantities, hazards present, and who to contact, if needed.

An example of a Laboratory Hazard Door Sign is shown below.

University Hall, Room 8Test1			
<b>Emergency Contacts</b> Call 911; Barbara Duncan			
<b>Room Contacts:</b> Area Manager: <b>R. Blackmar</b>		Phone: <b>643-8187</b>	Off-Hours: _____
Emergency Contact: <b>S. Maranzana</b>		Phone: <b>643-1208</b>	_____
Department: <b>Molecular &amp; Cell Biology - LSA</b>			
Emergency Contact: <b>Barbara Duncan</b>		Phone: (off hours) _____	
<b>Hazard Summary</b>			
Hazard	Solid-lbs	Liquid-gal	Gas-cu. ft.
Explosive			
Flammable/Combustible	1.59	2.24	
Highly Toxic			
Oxidizer/Organic Peroxide	3.30	0.79	
Corrosive	1.87	1.98	
Reactive	0.22	0.13	
Toxic	1.10	0.81	
<b>Other Known Hazards</b>			
Biohazard		No	
Carcinogen		Yes	
Reproductive Toxicant		No	
<b>Additional Hazard Guidance:</b> _____			
<b>Precautions:</b> Eye Protection Required, No Eating, Other: _____			
<b>MSDS location:</b> 165 LSA		contact: B. Duncan 3-8121	
<b>Special Instructions:</b>			
<small>EH&amp;S: 642-3073 / Off-hours (UCPD) 642-6760 Please update the UCB Chemical Inventory for this room and print a new sign by 10/05/12.</small>			

# Chemical Hazards



UC Berkeley uses chemicals in its academic research, teaching and support operations. Contractors may encounter these chemicals during their work.

Chemicals may be hazardous because they are corrosive, flammable, reactive, toxic, explosive or a combination of these properties.

If you encounter any of these chemicals during your work, do not handle them. Contact your UC Berkeley Project Manager for guidance.

# Hazardous Waste



UC Berkeley generates and temporarily holds hazardous waste within shops and laboratories. These containers are typically stored in fume hoods, but may be stored elsewhere in laboratories or shops. Do not handle hazardous waste containers or enter locations marked as a hazardous waste accumulation area, unless specifically approved to do so by an authorized UC Berkeley representative.



# Radioactive Materials and Radiation Producing Machines

UC Berkeley uses, transports and disposes of radioactive materials and x-ray producing machines.

- Radioactive materials and radiation producing machines can cause injury if not used properly.
- Contractors are not authorized to handle radioactive materials or radiation producing machines unless they receive specific authorization forms from the **EH&S Radiation Safety Officer (510) 642-3073**. Examples of radiation producing machines are:
  - Electron microscopes
  - Medical machines
  - Cabinet x-ray machines
  - X-ray diffraction and fluorescence analysis machines
  - Miscellaneous machines including electron, proton and neutron accelerators
- Contractors who are not handling radioactive materials or equipment must not enter areas marked with these symbols without documented training and authorization from UC Berkeley.

# Non-Ionizing Radiation



UC Berkeley uses equipment that directly or indirectly produces non-ionizing radiation (NIR) in the electromagnetic spectrum. Many NIR sources are present on the UC Berkeley campus, either in research applications or in ancillary equipment. Examples of NIR sources are: lasers, super-conducting magnets, cell phones and microwave antennas.

## LASERS

UC Berkeley uses lasers in many laboratories. Depending on beam power, lasers can cause severe eye or skin injuries and ignite combustible materials.



Laser use areas contain electrical hazards. Capacitor banks and high voltage power supplies can present severe shock, burn, arc and blast hazards.

All known deaths associated with lasers have been from electrical sources.

Contractors hired to conduct work in designated laser use facilities must be escorted by an authorized UC Berkeley representative.



# Non-Ionizing Radiation

## MAGNETS



Persons with pacemakers or other electronic, or mechanical medical implants and devices must not enter rooms marked with these warnings.

- Medically implanted devices, such as cardiac pacemakers, biostimulators, and neurostimulators, aneurysm clips, surgical clips or prostheses, may be subject to strong attractive forces near magnet systems.
- Any equipment or tools may be attracted to magnets and become airborne, flying across work areas, creating significant potential for injuring workers.

Assume magnets are always on!

All contractors who are hired to conduct work in designated magnet facilities must be escorted by an authorized UC Berkeley representative.



## Clean Rooms

Clean rooms are restricted areas and require specific controls and clothing. Access to these areas is limited to workers with approval and proper training. If you are not qualified to work in this area, do not enter.

# Biohazards



UC Berkeley uses, transports and disposes of hazardous biological materials.

- Laboratories with biological agents have a biohazard sign with appropriate information posted on the entrance.
- Consult your UC Berkeley Project Manager for appropriate requirements, training and procedures if contracted to work in these areas. Otherwise, stay out!

# Electro-Static Discharge (ESD) Areas



ESD work areas are sensitive to static electricity and other electrical discharge. These areas are clearly marked with yellow “ESD” tape. Stay clear of these areas unless escorted by an authorized UC Berkeley representative to complete your work in the area.



## Questions about the information in this booklet?



Contact the Office of  
Environment, Health & Safety (EH&S)  
University of California, Berkeley  
317 University Hall  
Berkeley, CA 94720

**Phone:** (510) 642-3073

**Email:** [ehs@berkeley.edu](mailto:ehs@berkeley.edu)

**Website:** <http://ehs.berkeley.edu>

**Berkeley**  
University of California

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