



**Mechanical and Aerospace Engineering**

# **INJURY AND ILLNESS PREVENTION PROGRAM**



## **UC DAVIS: Mechanical and Aerospace Engineering**

### **INJURY AND ILLNESS PREVENTION PROGRAM**

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This Injury and Illness Prevention Program has been prepared by The University of California,  
Department: Mechanical and Aerospace Engineering

in accordance with University Policy (UCD Policy & Procedure Manual Section 290-15: Safety Management Program) and California Code of Regulations Title 8, Section 3203 (8 CCR, Section 3203).

## **UC DAVIS: Mechanical and Aerospace Engineering**

# **INJURY AND ILLNESS PREVENTION PROGRAM**

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### **TABLE OF CONTENTS**

**Preface Department Information**

- I. Authorities and Responsible Parties**
- II. System of Communications**
- III. System for Assuring Employee Compliance with Safe Work Practices**
- IV. Hazard Identification, Evaluation, and Inspection**
- V. Accident Investigation**
- VI. Hazard Correction**
- VII. Health and Safety Training**
- VIII. Recordkeeping and Documentation**
- IX. Resources**
- X. Completed Tasks**

### **APPENDICES**

- A. Hazard Alert/Correction Form**
- B. Job Safety Analyses**
- C. Worksite Inspection Forms**
- D. Injury and Illness Investigation Form**
- E. Safety Training Attendance Record**

## UC DAVIS: Mechanical and Aerospace Engineering

# Department Information

Department Name: Mechanical and Aerospace Engineering

Department Director: Cristina Davis

Address: 2132 Bainer Hall • One Shields Avenue • Davis, CA 95616-5294

Telephone Number: 530-752-0580

### Buildings Occupied by Department

1. **Building:** Bainer Hall and Bainer Wind Tunnel Building

**Unit(s):** Administration, Research and Teaching

**Contact:** Krasen Kovachev, Felicia Smith

**Phone:** 530-752-8488, 530-752-0582

2. **Building:** Kemper Hall

**Unit(s):** Research

**Contact:** Krasen Kovachev, Felicia Smith

**Phone:** 530-752-8488, 530-752-0582

3. **Building:** TB207

**Unit(s):** Research

**Contact:** Krasen Kovachev, Felicia Smith

**Phone:** 530-752-8488, 530-752-0582

4. **Building:** Academic Surge Building

**Unit(s):** Administration, Research and Teaching  
Advanced Highway Maintenance and Construction Technology Research Center (AHMCT)

**Contact:** Krasen Kovachev, Wil White

**Phone:** 530-752-8488, 530-752-1455

## UC DAVIS: Mechanical and Aerospace Engineering

### I. Authorities and Responsible Parties

The authority and responsibility for the implementation and maintenance of the Injury and Illness Prevention Program (IIPP) is in accordance with University Policy (UCD Policy & Procedure Manual Section 290-15: Safety Management Program) and California Code of Regulations (8 CCR, Section 3203) and is held by the following individuals:

1. Name: Cristina Davis

Title: Department Chairperson


Authority: Authority and responsibility for ensuring implementation of this IIPP

Signature:  Date: 3/4/2021  
C6D5F87EF2FA410...

2. Name: Krasen Kovachev

Title: Department Safety Coordinator

Authority: Department designated authority for implementation of this IIPP

Signature:  Date: 3/4/2021  
5FF414812074477...

All Principal Investigators and supervisors are responsible for the implementation and enforcement of this IIPP in their areas of responsibility in accordance with University Policy (UCD Policy & Procedure Manual Section 290-15: Safety Management Program).

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### II. System of Communications

1. Effective communications with employees have been established using the following methods. Check all boxes that apply, list additional department methods in space provided.

<input checked="" type="checkbox"/>	Standard Operating Procedures Manual
<input checked="" type="checkbox"/>	Safety Data Sheets
<input type="checkbox"/>	Monthly departmental operations meetings
<input checked="" type="checkbox"/>	Internal media (department intranet)
<input checked="" type="checkbox"/>	EH&S Safety Nets
<input type="checkbox"/>	Training videos
<input type="checkbox"/>	Safety Newsletter
<input checked="" type="checkbox"/>	Handouts
<input checked="" type="checkbox"/>	Building Evacuation Plan
<input checked="" type="checkbox"/>	E-mail
<input checked="" type="checkbox"/>	Posters and warning labels
<input checked="" type="checkbox"/>	Job Safety Analysis – Initial Hire
<input checked="" type="checkbox"/>	Job Safety Analysis – Annual Review
<input checked="" type="checkbox"/>	Other (list): MAE Departmental Safety Training provided initially and then annually, as a refresher. Safety bulletin board located next to DSC's office, 2101 Bainer Hall

2. Employees are encouraged to report any potential health and safety hazard that may exist in the workplace. **Hazard Alert/Correction Forms** ([Appendix A](#)) are available to employees for this purpose. Forms are to be placed in the Safety Coordinator's departmental mail box. Employees have the option to remain anonymous when making a report.
3. Employees have been advised of adherence to safe work practices and the proper use of required personal protective equipment. Conformance will be reinforced by discipline for non-compliance in accordance with University policy ([UC Davis Personnel Policies for Staff Members- Section 62, Corrective Action](#)).

## UC DAVIS: Mechanical and Aerospace Engineering

### III. System for Assuring Employee Compliance with Safe Work Practices

Employees have been advised of adherence to safe work practices and the proper use of required personal protective equipment. Conformance will be reinforced by discipline for non-compliance in accordance with University policy ([UC Davis Personnel Policies for Staff Members- Section 62, Corrective Action](#)).

The following methods are used to reinforce conformance with this program:

1. Distribution of Policies
2. Training Programs
3. Safety Performance Evaluations

Performance evaluations at all levels must include an assessment of the individual's commitment to and performance of the accident prevention requirements of his/her position. The following are examples of factors considered when evaluating an employee's safety performance.

- Adherence to defined safety practices.
  - Use of provided safety equipment.
  - Reporting unsafe acts, conditions, and equipment.
  - Offering suggestions for solutions to safety problems.
  - Planning work to include checking safety of equipment and procedures before starting.
  - Early reporting of illness or injury that may arise as a result of the job.
  - Providing support to safety programs.
4. Statement of non-compliance will be placed in performance evaluations if employee neglects to follow proper safety procedures, and documented records are on file that clearly indicate training was provided for the specific topic, and that the employee understood the training and potential hazards.
  5. Corrective action for non-compliance will take place when documentation exists that proper training was provided, the employee understood the training, and the employee knowingly neglected to follow proper safety procedures. Corrective action includes, but is not limited to, the following: Letter of Warning, Suspension, or Dismissal.

Does your department use any additional methods for assuring employee compliance with safe work practices? YES NO ☒

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### IV. Hazard Identification, Evaluation, and Inspection

Job Hazard Analyses and worksite inspections have been established to identify and evaluate occupational safety and health hazards.

#### 1. Job Safety Analysis:

Job Safety Analysis (JSA) identifies and evaluates employee work functions, potential health or injury hazards, and specifies appropriate safe practices, personal protective equipment, and tools/equipment. JSA's can be completed for worksites, an individual employee's job description, or a class of employees' job description. Completed JSA's are located in **Appendix B**.

The following resources are available for assistance in completing JSA's:

- Laboratory personnel, please refer to the [Laboratory Hazard Assessment Tool](#)
- Non-Laboratory personnel, please refer to the [JSA/PPE Certification Forms](#)

(Example JSAs are located in [Appendix B1](#) and [Appendix B2](#) of this template)

#### 2. Worksite Inspections

Worksite inspections are conducted to identify and evaluate potential hazards. Types of worksite inspections include both periodic scheduled worksite inspections as well as those required for accident investigations, injury and illness cases, and unusual occurrences. Inspections are conducted at the following worksites:

- 1) Location: On-Campus Research Laboratories  
Frequency: Annual  
Responsible Person: EH&S and Fire Safety, Lab PI or Lab Safety Manager  
Records Location: Electronic and/or Lab Safety Binders
- 2) Location: Off-Campus Research Laboratories  
Frequency: Annual  
Responsible Person: EH&S Officer, Lab PI or Lab Safety Manager  
Records Location: Electronic and/or Lab Safety Binders
- 3) Location: NA  
Frequency: Annual  
Responsible Person: NA  
Records Location: NA
- 4) Location: NA  
Frequency: Annual  
Responsible Person: NA  
Records Location: NA

(Worksite Inspection Forms are located in **Appendix C** ([C1 - General Office](#) and [C2 - Laboratory](#)).

(Example Worksite Inspection Forms are located in *Appendix C* of this template (*C1 - General Office* and *C2 - Laboratory*).



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### V. Accident Investigation

University Policy requires that work-related injuries and illnesses be reported to Workers' Compensation within 24 hours of occurrence and state regulation requires all accidents be investigated.

**Employee of this department** will immediately notify their supervisor when occupationally-related injuries and illnesses occur, or when employees first become aware of such problems.

1. **Supervisors** will investigate all accidents, injuries, occupational illnesses, and near-miss incidents to identify the causal factors or attendant hazards. Appropriate repairs or procedural changes will be implemented promptly to mitigate the hazards implicated in these events. Proper injury reporting procedures can be found at <http://safetyservices.ucdavis.edu/article/injury-reporting-procedure>.
2. The **Injury and Illness Investigation Form (Appendix D)** shall be completed to record pertinent information and a copy retained to serve as documentation. It can be completed by either the supervisor or the Department Safety Coordinator.
3. **Note:** Serious occupational injuries, illnesses, or exposures must be reported to Cal/OSHA by an EH&S representative **within eight hours** after they have become known to the supervisor. These include injuries/illnesses/exposures that cause permanent disfigurement or require hospitalization for a period in excess of 24 hours. Please refer to [EH&S SafetyNet #121](#) for OSHA notification instructions.

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### VI. Hazard Correction:

Hazards discovered either as a result of a scheduled periodic inspection or during normal operations must be corrected by the supervisor in control of the work area, or by cooperation between the department in control of the work area and the supervisor of the employees working in that area. Supervisors of affected employees are expected to correct unsafe conditions as quickly as possible after discovery of a hazard, based on the severity of the hazard.

Specific procedures that can be used to correct hazards include, but are not limited to, the following:

- Tagging unsafe equipment “Do Not Use Until Repaired,” and providing a list of alternatives for employees to use until the equipment is repaired.
- Stopping unsafe work practices and providing retraining on proper procedures before work resumes.
- Reinforcing and explaining the need for proper personal protective equipment and ensuring its availability.
- Barricading areas that have chemical spills or other hazards and reporting the hazardous conditions to appropriate parties.

Supervisors should use the **Hazard Alert/Correction Report ([Appendix A](#))** to document corrective actions, including projected and actual completion dates.

If an imminent hazard exists, work in the area must cease, and the appropriate supervisor must be contacted immediately. If the hazard cannot be immediately corrected without endangering employees or property, all personnel need to leave the area except those qualified and necessary to correct the condition. These qualified individuals will be equipped with necessary safeguards before addressing the situation.

Does your department have any additional Hazard Correction Procedures? Yes                      No    ☒ x

## **UC DAVIS: Mechanical and Aerospace Engineering**

### **VII. Health and Safety Training**

Health and safety training, covering both general work practices and job-specific hazard training is the responsibility of: **Cristina Davis**

and immediate Supervisor(s) as applicable to the following criteria:

1. Supervisors are provided with training to become familiar with the safety and health hazards to which employees under their immediate direction and control may be exposed.
2. All new employees receive training prior to engaging in responsibilities that pose potential hazard(s).
3. All employees given new job assignments receive training on the hazards of their new responsibilities prior to actually assuming those responsibilities.
4. Training is provided whenever new substances, processes, procedures or equipment (which represent a new hazard) are introduced to the workplace.
5. Whenever the employer is made aware of a new or previously unrecognized hazard, training is provided.

The **Safety Training Attendance Record** form is located in [Appendix E](#).

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### **VIII. Recordkeeping and Documentation**

Documents related to the IIPP are maintained in/at/on:

MAE Intranet and/or DSC office (2101 Bainer Hall)

The following documents will be maintained within the department's IIPP Binder for at least the length of time indicated below:

1. Hazard Alert/Correction Forms (Appendix A form).  
Retain for three (3) years.
2. Employee Job Safety Analysis forms (Appendix B form)  
Retain for the duration of each individual's employment.
3. Worksite Inspection Forms (Appendix C form).  
Retain for three (3) years.
4. Injury and Illness Investigation Forms (Appendix D form).  
Retain for three (3) years.

The following documents will be maintained within the department's IIPP Training Records Binder for at least the length of time indicated below:

1. Employee Safety Training Attendance Records (Appendix E form).  
Retain for three (3) years.

## UC DAVIS: Mechanical and Aerospace Engineering

### IX. Resources

1. UC Office of the President: [Management of Health, Safety and the Environment](#), 10/28/05
2. UC Davis Policy and Procedure Manual, [Section 290-15](#), Safety Management Program
3. California Code of Regulations Title 8, Section 3203, ([8CCR §3203](#)), Injury and Illness Prevention Program
4. Personnel Policies for Staff Members, Corrective Action, [UC PPSM 62](#)
5. UC Davis Environmental Health & Safety
  - [Safety Services Website](#)
  - [EH&S SafetyNets](#)
  - [Safety Data Sheets](#)
6. Does your department have any additional resources? YES   x                      NO  
Departmental website, safety section: [mae.ucdavis.edu/resources/safety-information/](http://mae.ucdavis.edu/resources/safety-information/)  
Safety bulletin board located next to DSC's office, 2101 Bainer Hall

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X. COMPLETED TASKS

If you selected 'No' for any task, provide an estimated timeframe for completion.

All tasks are required before submitting:

JSA Reviewed:	YES	x	NO	
Annual Worksite Inspection completed:	YES		NO	x Safety inspections usually done around Jul
IIPP Reviewed:	YES	x	NO	
Annual IIPP Training completed:	YES	x	NO	



Approve Well done Krasen!

# HAZARD ALERT / CORRECTION FORM

Alert Identification No. \_\_\_\_\_

Department: \_\_\_\_\_

## I. Unsafe Condition or Hazard

Name: (optional) \_\_\_\_\_ Job: \_\_\_\_\_

Title: (optional) \_\_\_\_\_

Location of Hazard: \_\_\_\_\_

Building: \_\_\_\_\_ Floor: \_\_\_\_\_ Room: \_\_\_\_\_

Date and time the condition or hazard was observed: \_\_\_\_\_

Description of unsafe condition or hazard: \_\_\_\_\_

What changes would you recommend to correct the condition or hazard?

Employee Signature: (optional) \_\_\_\_\_

Date: \_\_\_\_\_

## II. Management/Safety Committee Investigation

Name of person investigating unsafe condition or hazard: \_\_\_\_\_

Results of investigation (What was found? Was condition unsafe or a hazard?): (Attach additional sheets if necessary.)

Proposed action to be taken to correct hazard or unsafe condition: (Complete and attach a Hazard Correction Report, IIPP Appendix E)

Signature of Investigating Party: \_\_\_\_\_

Date: \_\_\_\_\_

**IIPP-Appendix A  
January 2016**

Completed copies of this form should be routed to the appropriate supervisor and department Safety Coordinator, and must be maintained in department files for at least three years.

# HAZARD ALERT / CORRECTION REPORT

Alert Identification No. \_\_\_\_\_

Department: \_\_\_\_\_

This form should be used in conjunction with the "Hazard Alert Form" (IIPP Appendix A), as appropriate, to track the correction of identified hazards.

All hazards should be corrected as soon as possible, based on the severity of the hazard. If a serious imminent hazard cannot be immediately corrected, evacuate personnel from the area and restrict access until the hazard can be addressed.

Supervisor/Safety Coordinator Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Supervisor/Safety Coordinator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Description and Location of Unsafe Condition	Date Discovered	Required Action and Responsible Party	Completion Date	
			Projected	Actual

**IIPP–Appendix A  
January 2016**

Completed copies of this form should be routed to the department Safety Coordinator and kept in department files for at least three years.



## Example Job Safety Analysis

Department: Environmental Health & Safety  
Section: Health & Safety

Date \_\_\_\_\_

**IIPP-Appendix B1**  
**January 2016**

Job Function	Potential Health or Injury Hazard	Safe Practice, Apparel, or Equipment
Inspection and auditing of laboratories containing chemicals.	Exposure to chemicals via inhalation, contact, ingestion or injection.	Avoid all unnecessary exposures. Reduce exposures that cannot be avoided by minimizing exposure duration and concentration. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. All personnel to receive on the job and classroom training including Chemical Laboratory Safety, Hazardous Waste Management and Minimization Training and other applicable courses during the first 6 months of employment.
Inspection and auditing of laboratories containing radiological materials.	Exposure to radiological agents via inhalation, contact, ingestion or injection.	Avoid all unnecessary exposures. Adhere to radiological material handling procedures including limiting exposures through combination of minimizing time, maximizing distances and use of appropriate shielding. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Participation in radiological monitoring program including dosimetry. All personnel to receive on the job and classroom training including Radiation Safety and other applicable courses during the first 6 months of employment.
Inspection and auditing of laboratories containing biological materials.	Exposure to biological agents via inhalation, contact, ingestion or injection.	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Proper adherence to blood borne pathogen handling protocols. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Voluntary participation in Hepatitis B vaccination program. Proper adherence to biological waste handling procedures. All personnel to attend EH&S Blood borne Pathogen Program training during the first 6 months of employment. Participation in Facilities- specific medical clearances as required.
Inspection and auditing of laboratories, shops and spaces containing physical hazards.	Injury from physical hazards including high voltage, lasers and ultraviolet light, compressed gases and liquids, cryogenic materials, and specialized equipment as well as falling objects.	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear and specialized equipment. Employees are not to enter restricted areas unless accompanied by a properly trained individual familiar with the hazards of the area. Employees are not to operate specialized equipment without proper training and documentation. Watch for overhead hazards and wear head protection if needed. Personnel auditing or routinely entering areas where lasers are used will receive laser safety training within 6 months of employment.

Job Function	Potential Health or Injury Hazard	Safe Practice, Apparel, or Equipment
Inspection and auditing of laboratories and animal housing facilities containing animals.	Exposure to animals and animal allergies via inhalation and contact	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Proper adherence to animal care and use protocols. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Participation in the occupational health program for animal workers. All personnel to attend the IACUC Animal Care and Use 101 training during the first 6 months of employment. Participation in Facilities- specific medical clearances as required.
Handling and moving heavy items and equipment.	Ergonomic hazards including heavy lifting, repetitive motions, awkward motions, crushing or pinching injuries etc.	Get help with all loads that cannot be safely lifted by one person. Use mechanical means to lift and move heavy items, push carts and dolly rather than pull, attend back safety class, employ proper lifting techniques at all times. Set up work operations as ergonomically safe as practical. Wear proper hand and foot protection to protect against crushing or pinching injuries.
General office work	Back strain, eyestrain, repetitive motion injury. Physical injuries due to slips, trips and falls, and falling objects. Electrical hazards. Physical injuries due to fires, earthquakes, bomb threats and workplace violence.	Ensure that workstations are ergonomically correct. Keep floors clear of debris and liquid spills. Keep furniture, boxes, etc. from blocking doorways, halls and walking space. Do not stand on chairs of any kind, use proper foot stools or ladders. Do not store heavy objects overhead. Do not top load filing cabinets, fill bottom to top. Do not open more than one file drawer at a time. Brace tall bookcases and file cabinets to walls. Provide one-inch lip on shelves. Do not use extension cords in lieu of permanent wiring. Ensure that high wattage appliances do not overload circuits. Use GFCIs in receptacles in potentially wet areas. Replace frayed or damaged electrical cords. Ensure that electrical cords are not damaged by being wedged against furniture or pinched in doors. Attend emergency action and fire prevention plan training including emergency escape drills.
Operation of motor vehicles	Motor vehicle accidents involving personal injury, or property damage	All drivers of University vehicles must attend the Driver Safety Awareness Course offered by Fleet Services and possess a valid California drivers license. Hazardous materials may not be transported in personally owned vehicles.
Exposure to noise hazards	Hearing loss due to noise exposure	Voluntarily participate in the Hearing Conservation Program. Use hearing protection as required.

## Job Safety Analysis

Department: Business Services

Name

Signature

Date

**IIPP - Appendix B2**  
**January 2016**

Job Function	Potential Health or Injury Hazard	Safe Practice, Apparel, or Equipment
General office work	Back strain, eyestrain, repetitive motion injury. Physical injuries due to slips, trips and falls, and falling objects. Electrical hazards. Physical injuries due to fires, earthquakes, bomb threats and workplace violence.	Ensure that workstations are ergonomically correct. Keep floors clear of debris and liquid spills. Keep furniture, boxes, etc. from blocking doorways, halls and walking space. Do not stand on chairs of any kind, use proper foot stools or ladders. Do not store heavy objects overhead. Do not top load filing cabinets, fill bottom to top. Do not open more than one file drawer at a time. Brace tall bookcases and file cabinets to walls. Provide one-inch lip on shelves. Do not use extension cords in lieu of permanent wiring. Ensure that high wattage appliances do not overload circuits. Use GFCIs in receptacles in potentially wet areas. Replace frayed or damaged electrical cords. Ensure that electrical cords are not damaged by being wedged against furniture or pinched in doors. Attend emergency action and fire prevention plan training including emergency escape drills.
Operation of motor vehicles	Motor vehicle accidents involving personal injury, or property damage	All drivers of University vehicles must attend the Driver Safety Awareness Course offered by Fleet Services and possess a valid California drivers license. Hazardous materials may not be transported in personally owned vehicles.

**WORKSITE INSPECTION FORM****General Office Environment**

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Inspector: \_\_\_\_\_ Phone: \_\_\_\_\_

Department: \_\_\_\_\_

**Administration and Training**

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	1.	Are all safety records maintained in a centralized file for easy access? Are they current?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	2.	Have all employees attended Injury & Illness Prevention Program training? If not, what percentage has attended?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	3.	Does the department have a completed Emergency Action Plan? Are employees being trained on its contents?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	4.	Are chemical products used in the office being purchased in small quantities? Are Material Safety Data Sheets needed?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	5.	Are the Cal/OSHA information poster, Workers' Compensation bulletin, annual accident summary posted?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	6.	Are annual workplace inspections performed and documented?

**General Safety**

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	7.	Are exits, fire alarms, pullboxes clearly marked and unobstructed?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	8.	Are aisles and corridors unobstructed to allow unimpeded evacuations?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	9.	Is a clearly identified, unobstructed, charged, currently inspected and tagged, wall-mounted fire extinguisher available as required by the Fire Department?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	10.	Are ergonomic issues being addressed for employees using computers or at risk of repetitive motion injuries?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	11.	Is a fully stocked first-aid kit available? Is the location known to all employees in the area?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	12.	Are cabinets, shelves, and furniture over five feet tall secured to prevent toppling during earthquakes?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	13.	Are books and heavy items and equipment stored on low shelves and secured to prevent them from falling on people during earthquakes?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	14.	Is the office kept clean of trash and recyclables promptly removed?

**Electrical Safety**

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	15.	Are plugs, cords, electrical panels, and receptacles in good condition? No exposed conductors or broken insulation?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	16.	Are circuit breaker panels accessible and labeled?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	17.	Are surge protectors being used? If so, they must be equipped with an automatic circuit breaker, have cords no longer than 15 feet in length, and be plugged directly into a wall outlet.
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	18.	Is lighting adequate throughout the work environment?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	19.	Are extension cords being used correctly? They must not run through walls, doors, ceiling, or present a trip hazard.
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	20.	Are portable electric heaters being used? If so, they must be UL listed, plugged directly into a wall outlet, and located away from combustible materials.

# LABORATORY SAFETY REVIEW CHECKLIST

**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

# UC DAVIS

To fill out this checklist online from a tablet or phone, please use the [SIT tool](#) on UC Safety Suite.

Principal Investigator/Laboratory Supervisor: \_\_\_\_\_

Lab Contact: \_\_\_\_\_

Building: \_\_\_\_\_

Date: \_\_\_\_\_

Room Number: \_\_\_\_\_

Chemical	Yes	No	Corrected	NA
<b>Abbreviations used on container labels are identified in a prominent place in the lab.</b> <b>Description/Corrective Action:</b> Abbreviations and/or acronyms used in the laboratory shall be posted in a prominent place and available to all laboratory workers				
<b>Chemical containers are clearly labeled with contents (in English) and primary hazard(s).</b> <b>Description/Corrective Action:</b> Each container of hazardous substance is to be labeled with the identity of the hazardous substance and any appropriate hazard warnings.				
<b>Chemical storage containers are in good condition and appropriate for contents.</b> <b>Description/Corrective Action:</b> Hazardous substances shall be stored in containers which are chemically inert to and appropriate for the type and quantity of hazardous substance. Containers of hazardous substances shall not be stored in such locations or manner as to result in physical damage to, or deterioration of, the container.				
<b>Containers of hazardous chemicals are not stored on the floor.</b> <b>Description/Corrective Action:</b> Floor storage is not recommended for hazardous materials. If it is necessary to do so, secondary containment is required.				
<b>Corrosive or potentially hazardous liquid chemicals are stored below eye level.</b> <b>Description/Corrective Action:</b> To reduce potential for spill or splash injury to face and eyes, corrosives and other potentially hazardous liquids should be stored below eye level (< 56").				
<b>Flammable chemicals are stored separately from combustible materials.</b> <b>Description/Corrective Action:</b> Storage of flammable liquids shall be separated from incompatible materials, including combustible materials.				
<b>Flammable liquid (including waste) storage outside of the flammable storage cabinet is less than 10 gallons.</b> <b>Description/Corrective Action:</b> The maximum amount of flammable liquids (including waste) in a laboratory allowed outside a flammable storage cabinet is 10 gallons. If no flammable storage available, reduce inventory to less than 10 gallons.				
<b>Flammable liquid storage in the lab is below allowable quantities as determined by the campus Fire Marshal (60 gallons per fire-rated area).</b> <b>Description/Corrective Action:</b> Flammable liquids in the laboratory must not exceed 60 gallons per fire rated area.				

# LABORATORY SAFETY REVIEW CHECKLIST

ENVIRONMENTAL HEALTH & SAFETY  
ONE SHIELDS AVENUE  
DAVIS, CA 95616  
(530) 752-1493

# UC DAVIS

<p><b>Flammables liquids are not stored in containers that exceed 1 gallon containers (or 2 gallons for approved safety can).</b></p> <p><b>Description/Corrective Action:</b> Flammable liquid storage containers must not exceed 1 gallon, with the exception of 2 gallon if container is a safety can.</p>				
<p><b>Flammables liquids are not used in close proximity to ignition sources.</b></p> <p><b>Description/Corrective Action:</b> Flammable liquids shall be kept as far as possible from open flames, but not less than 12 inches.</p>				
<p><b>Flammables are stored in "laboratory safe" refrigerator/freezer only.</b></p> <p><b>Description/Corrective Action:</b> Flammables must be stored in refrigerators or freezers manufactured to be "laboratory safe" and properly labeled as safe for storage of flammables.</p>				
<p><b>Incompatible chemicals are properly segregated.</b></p> <p><b>Description/Corrective Action:</b> Incompatible substances must be separated from each other by distance, partitions or secondary containment to prevent accidental contact. Store acids from bases, oxidizers from flammables, etc.</p>				
<p><b>Laboratory is free of expired or unneeded chemicals.</b></p> <p><b>Description/Corrective Action:</b> Expired chemicals should be discarded following appropriate disposal procedures. All unneeded chemicals should be removed from the laboratory.</p>				
<p><b>Pyrophoric chemicals are segregated, properly contained, labeled and used only in buildings equipped with automatic sprinkler system.</b></p> <p><b>Description/Corrective Action:</b> Pyrophoric chemicals must be segregated from incompatible materials by a distance of not less than 20 feet or by storing in hazardous material storage cabinets. Pyrophoric chemical use and storage is permissible only in buildings that are equipped throughout with an approved automatic sprinkler system.</p>				
<p><b>Storage cabinets are clearly labeled as to contents.</b></p> <p><b>Description/Corrective Action:</b> Chemical storage cabinets must be conspicuously labeled as appropriate, i.e. "FLAMMABLE" or "CORROSIVES".</p>				
<p><b>Strong acids and strong bases are stored in secondary containers.</b></p> <p><b>Description/Corrective Action:</b> Secondary containment is required for the indoor storage of all corrosives.</p>				
<p><b>Time sensitive chemicals/peroxide formers are labeled with date received, stored away from light and disposed of within 18 months of purchase or expiration date, whichever is sooner.</b></p> <p><b>Description/Corrective Action:</b> Peroxide formers are to be stored away from light and heat and labeled with the date they were received, opened and an expiration date to facilitate hazard control. Organic peroxides can decompose into various unstable compounds over time.</p>				



**LABORATORY SAFETY  
REVIEW CHECKLIST**  
**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

**UC DAVIS**

<b>Water reactive chemicals are properly segregated, contained and labeled.</b>  <b>Description/Corrective Action:</b> Materials which will react with water shall not be stored in the same room with flammable or combustible liquids. Chemicals that may react violently with water must be stored in a moisture free environment and protected from accidental contact with water.				
<b>Documentation</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<b>Appropriate hazard communication signage is posted at laboratory entrance(s).</b>  <b>Description/Corrective Action:</b> Hazard identification signs (biohazard, radiation, carcinogen, toxic, oxidizer, flammable, pyrophoric, water reactive, corrosive, magnetic fields, laser, etc.) are required at the entrances to locations where hazardous materials are stored, dispensed, used or handled.				
<b>Building Emergency Evacuation Route is posted near the exit.</b>  <b>Description/Corrective Action:</b> Map of escape route shall be posted near exits.				
<b>Chemical inventory has been completed or updated within past 12 months.</b>  <b>Description/Corrective Action:</b> An inventory of all hazardous substances known to be present in the workplace must be maintained and updated at least annually.				
<b>Current emergency contacts and PI/supervisor contact are posted at the laboratory entrance.</b>  <b>Description/Corrective Action:</b> The names or regular job titles of persons who can be contacted for further information or explanations during an emergency should be posted at the entrances to all laboratories.				
<b>Department Injury and Illness Prevention Plan is available and up-to-date.</b>  <b>Description/Corrective Action:</b> Every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program. The program shall be in writing and updated at least annually.				
<b>Emergency Action Plan is available.</b>  <b>Description/Corrective Action:</b> Every employer shall establish, implement and maintain an Emergency Action Plan. The plan shall be in writing and updated at least annually.				
<b>Emergency assistance information is posted.</b>  <b>Description/Corrective Action:</b> Effective provisions shall be made in advance for prompt medical treatment in the event of serious injury or illness. This can be accomplished by a communications system for contacting a doctor or emergency medical service, such as access to 911 or equivalent telephone system. Emergency numbers must be posted near telephone.				
<b>Hazard assessment is completed and reviewed annually.</b>  <b>Description/Corrective Action:</b> UCOP policy requires a hazard assessment to determine the appropriate personal protective equipment. Any completed hazard assessment that indicates less than the minimum PPE described requires review and approval from EH&S. Hazard assessment must be reviewed on an annual basis and roster must be kept up-to-date.				

# LABORATORY SAFETY REVIEW CHECKLIST

**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

# UC DAVIS

<p><b>If applicable, participation in the Medical Surveillance Program has been established and documented.</b></p> <p><b>Description/Corrective Action:</b> For a Cal/OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements, medical surveillance shall be established for employee as prescribed by the particular standard.</p>				
<p><b>Personnel is aware of location/existence of current campus-wide Chemical Hygiene Plan</b></p> <p><b>Description/Corrective Action:</b> A written Chemical Hygiene Plan is required for any workplace that uses hazardous chemicals. Access to current Chemical Hygiene Plan must be available to all members of the lab. UC Davis campus-wide Chemical Hygiene Plan is contained within the Laboratory Safety Manual: <a href="http://safetyservices.ucdavis.edu/article/laboratory-safety-manual">http://safetyservices.ucdavis.edu/article/laboratory-safety-manual</a>.</p>				
<p><b>Safety Data Sheets are accessible and available.</b></p> <p><b>Description/Corrective Action:</b> Safety data sheets for each hazardous substance must be readily accessible. Electronic access and other alternatives to maintaining paper copies are permitted provided all lab workers have immediate access.</p>				
<p><b>Self-inspections are conducted and documented on an annual basis.</b></p> <p><b>Description/Corrective Action:</b> Records of scheduled and periodic inspections (annual) to identify unsafe conditions and work practices, including person(s) conducting the inspection, the unsafe conditions and work practices that have been identified and action taken to correct the identified unsafe conditions and work practices are required.</p>				
<p><b>Staff is aware of how to report incidents and near-misses.</b></p> <p><b>Description/Corrective Action:</b> Staff should be provided information on the reporting of incidents and near misses.</p>				
<p><b>Standard Operating Procedures are available.</b></p> <p><b>Description/Corrective Action:</b> Written SOPs for hazardous operations in the laboratory, work with particularly hazardous substances, etc., and documented training are required. Consult manufacturers' Safety Data Sheets (SDS) for hazard classification information.</p>				
<b>Electrical</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<p><b>3-Prong plugs have not been modified to plug into 2-prong receptacle.</b></p> <p><b>Description/Corrective Action:</b> Equipment must be properly grounded to operate safely.</p>				
<p><b>A minimum clearance of thirty-six inches in front of electric panel/breaker box is being maintained.</b></p> <p><b>Description/Corrective Action:</b> A minimum clearance must be maintained around electrical panel for easy access in the event of an emergency.</p>				
<p><b>Electrical cords do not pose any trip hazards.</b></p> <p><b>Description/Corrective Action:</b> Cords must be taped down or otherwise secured to prevent tripping.</p>				

# LABORATORY SAFETY REVIEW CHECKLIST

**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

# UC DAVIS

<b>Equipment does not have any damaged cord, plug or other condition that constitutes an electrical hazard.</b>  <b>Description/Corrective Action:</b> Remove equipment from service until repaired or replaced.				
<b>Extension cords are not being used as permanent or semi-permanent wiring.</b>  <b>Description/Corrective Action:</b> Extension cords may be used in temporary situations where permanent wiring is inappropriate or because equipment is frequently moved. If permanent wiring is required a circuit receptacle should be installed.				
<b>Extension cords or power strip are plugged directly into outlet.</b>  <b>Description/Corrective Action:</b> Power strips or extension cords must be directly connected to a permanently installed circuit receptacle, not connected in series.				
<b>High voltage equipment is clearly and appropriately labeled.</b>  <b>Description/Corrective Action:</b> "Danger – High Voltage" must be posted on all doors that lead to areas that contain equipment with high voltage (>600 volts). Equipment must be marked as high voltage with permanent, highly visible markings.				
<b>High voltage equipment is properly guarded.</b>  <b>Description/Corrective Action:</b> High voltage conductors (>600 volts) must be effectively guarded against danger from accidental contact. All protective panels must be properly installed.				
<b>Major appliances/equipment are plugged directly into outlet.</b>  <b>Description/Corrective Action:</b> Refrigerators, freezers, incubators, centrifuges, microwaves, analytical equipment, etc. must be plugged directly into the wall outlet.				
<b>Personnel working on hard-wired equipment are trained to the Energy Isolation – Lock Out/Tag Out program.</b>  <b>Description/Corrective Action:</b> The employer's hazardous energy control procedure shall include separate procedural steps for the safe lockout/tagout of each machine or piece of equipment affected by the hazardous energy control procedure. Only trained individuals may work on hard-wired equipment.				
<b>Power strips near liquids have surge protection.</b>  <b>Description/Corrective Action:</b> Surge protection is required for all power strips that are used near liquid.				
<b>Equipment</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<b>Appropriate safety information is posted on equipment.</b>  <b>Description/Corrective Action:</b> Required safety information, including danger and hazard warning must be posted on equipment.				

# LABORATORY SAFETY REVIEW CHECKLIST

ENVIRONMENTAL HEALTH & SAFETY  
ONE SHIELDS AVENUE  
DAVIS, CA 95616  
(530) 752-1493

# UC DAVIS

<b>Moving parts of equipment are properly guarded.</b>  <b>Description/Corrective Action:</b> Belts, pulleys, sprockets and chains, shafts or other rotating parts of mechanical equipment must be properly guarded (opening <1/2").				
<b>Secondary containment for vacuum pumps that use oil is provided.</b>  <b>Description/Corrective Action:</b> Secondary containment must be provided for vacuum pumps to collect oil leakage.				
<b>Fire</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<b>Aisles, exits and/or hallways are not obstructed.</b>  <b>Description/Corrective Action:</b> Aisles must meet minimum clearance guideline of 24" to facilitate departure in the event of an emergency.				
<b>Fire Extinguisher is available in the room with flammable or combustible liquids.</b>  <b>Description/Corrective Action:</b> A portable fire extinguisher must be located in the area where flammable or combustible liquids are stored, used or dispensed.				
<b>Fire extinguisher annual maintenance tag is present and up-to-date.</b>  <b>Description/Corrective Action:</b> Fire extinguisher must be inspected annually by Fire Prevention and documented on inspection tag. Contact Rocci Twitchell at <a href="mailto:rtrtwitchell@ucdavis.edu">rtrtwitchell@ucdavis.edu</a> to arrange for annual maintenance or replacement tag.				
<b>Fire extinguisher is properly mounted.</b>  <b>Description/Corrective Action:</b> Fire extinguisher must be mounted and easily accessible in the event of an emergency.				
<b>Fire extinguisher monthly visual inspection is documented and up-to-date.</b>  <b>Description/Corrective Action:</b> Fire extinguishers must be visually inspected monthly and documented.				
<b>Fire extinguishers are available as required.</b>  <b>Description/Corrective Action:</b> Portable fire extinguishers must be available within 75' or less for class A fires or within 50' for class B fires (flammable liquids).				
<b>Fire extinguishers are fully charged, pin and/or security seal is intact.</b>  <b>Description/Corrective Action:</b> Fire extinguishers must be fully charged and operational at all times.				
<b>Fire-rated doors are not propped open.</b>  <b>Description/Corrective Action:</b> Fire-rated doors must not be propped open. Magnetic hold-opens, linked to building alarm systems, are acceptable.				

**LABORATORY SAFETY  
REVIEW CHECKLIST**  
**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

**UC DAVIS**

<p><b>Items stored such that minimum clearance of 18" of sprinklers or 24" of ceiling without sprinklers is met.</b></p> <p><b>Description/Corrective Action:</b> Title 8, §6170 requires 18" clearance between sprinklers and materials below and 24" from ceiling to materials below without sprinklers. Move items that prevent this required clearance.</p>				
<b>Fume Hoods</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<p><b>Audible/visual alarm is functional and/or visual airflow indicator is working.</b></p> <p><b>Description/Corrective Action:</b> Fume hood must be equipped with a quantitative airflow monitor that continuously indicates air is flowing or an audible or visual alarm that is activated if airflow decreases to less than 80% of required airflow.</p>				
<p><b>Chemical work is conducted more than 6" from front of hood.</b></p> <p><b>Description/Corrective Action:</b> To minimize potential for injury or exposure, hazardous chemicals and/or reactions should be kept at least 6" behind the plane of the sash.</p>				
<p><b>Fume hood has been certified within the past year.</b></p> <p><b>Description/Corrective Action:</b> Annual check of fume hood is required to ensure the ability to maintain inward airflow.</p>				
<p><b>Fume hood illumination is functional.</b></p> <p><b>Description/Corrective Action:</b> If fume hood illumination is available, it must be functional.</p>				
<p><b>Fume hood is not cluttered or used for storage.</b></p> <p><b>Description/Corrective Action:</b> Fume hood should not be used for long-term storage of equipment, chemicals or supplies not regularly used. Fume hood should be kept clean and free of clutter at all times for improved airflow across the work surface.</p>				
<p><b>Fume hood users know how to check their airflow monitor to verify that the hood airflow is functioning properly. Users know how to check the certification sticker for annual testing.</b></p> <p><b>Description/Corrective Action:</b> Fume hood operators must know where the quantitative airflow monitor or alarm system is located on the hood and how it is used to indicate an inward airflow during hood operation, and be able to determine the date of the last performance test and if the hood performance met the requirements.</p>				
<p><b>Proper sash height is indicated. Sash position does not exceed approved working height. Fume hood is kept closed when not in use.</b></p> <p><b>Description/Corrective Action:</b> The sash and/or jamb of the fume hood must be marked to show the maximum opening at which the hood face velocity meets the required airflow. Fume hood should be kept closed when not in use.</p>				

# LABORATORY SAFETY REVIEW CHECKLIST

**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

# UC DAVIS

Gas	Yes	No	Corrected	NA
<b>Compressed gas cylinders are adequately secured.</b>  <b>Description/Corrective Action:</b> Compressed cylinders must be stored upright and adequately secured. Two, non-combustible restraints (upper 1/3 and lower 1/3) are recommended. "C"-clamps are not adequate to secure large cylinders.				
<b>Compressed gas cylinders are labeled with contents and hazards.</b>  <b>Description/Corrective Action:</b> Compressed gas cylinders are required to have a shoulder label that includes contents and hazard information.				
<b>Oxygen and combustible cylinders are separated by an appropriate distance or barrier.</b>  <b>Description/Corrective Action:</b> Oxygen cylinders in use or in storage shall be separated from fuel gas cylinders or combustible materials a minimum distance of 20 feet or by a non-combustible barrier at least 5 feet high, or a minimum of 18 inches (46 centimeters) above the tallest cylinder and having a fire-resistance rating of at least one hour.				
<b>Toxic gases are properly stored in a ventilated cabinet/fume hood.</b>  <b>Description/Corrective Action:</b> Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards.				
<b>Valves of gas cylinders are capped when not in use.</b>  <b>Description/Corrective Action:</b> Valve protection devices must be in place when cylinder is not in use. The regulator must not remain installed when cylinder is not in-use.				
General Safety	Yes	No	Corrected	NA
<b>Ceiling tiles/panels are not missing and are in good condition.</b>  <b>Description/Corrective Action:</b> Individual ceiling tiles adjacent to sprinkler heads must be in place to ensure activation of the sprinkler system during a fire. Groups of three or more ceiling tiles missing in areas not adjacent to sprinkler heads must be replaced to ensure activation.				
<b>Floor is free of defects that could cause slipping, tripping or falling.</b>  <b>Description/Corrective Action:</b> Laboratory floor needs to be free of defects that could cause slip, trips and falls.				
<b>Hand wash sink is available with soap and paper towels.</b>  <b>Description/Corrective Action:</b> Employees must be able to wash and dry their hands after working with potentially hazardous materials, after removing gloves and prior to leaving laboratory.				



# LABORATORY SAFETY REVIEW CHECKLIST

ENVIRONMENTAL HEALTH & SAFETY  
ONE SHIELDS AVENUE  
DAVIS, CA 95616  
(530) 752-1493

# UC DAVIS

<b>Lab areas are clean and uncluttered.</b>  <b>Description/Corrective Action:</b> Lab area should be clean and uncluttered, excess materials should be stored in neat, secure manner that provides easy access and reduces the potential for falling, collapsing, rolling or spreading of the material. Equipment, chemicals, glassware and supplies not in regular use should be stored in areas other than workstations. Paper on work surfaces and walls should be kept to a minimum. There should be minimal glassware on bench top, in sink, and in fume hood.				
<b>Laboratory sinks delivering non-potable water, are labeled "Industrial Water - Do Not Drink"</b>  <b>Description/Corrective Action:</b> Water for industrial purposes must be posted in a manner to indicate that the water is unsafe and is not to be used for drinking.				
<b>Laboratory ventilation pressure is negative with respect to corridors and offices.</b>  <b>Description/Corrective Action:</b> Negative pressure should be maintained between the laboratory and adjacent non-laboratory spaces to prevent uncontrolled chemical vapors from leaving the laboratory.				
<b>Refrigerators/freezers are labeled appropriately for the use of the refrigerator/freezer. i.e. "not for storage of food for consumption", "not for storage of flammable materials".</b>  <b>Description/Corrective Action:</b> Permanent warning labels against the storage of food and beverages must be affixed to all laboratory refrigerators and freezers, i.e., "not for storage of food for consumption," "not for storage of flammable materials," etc.				
<b>Spills are promptly and properly cleaned.</b>  <b>Description/Corrective Action:</b> All spills shall be cleaned promptly, using appropriate protective apparel and equipment.				
<b>There is no eating or drinking in the laboratory or food storage with hazardous materials.</b>  <b>Description/Corrective Action:</b> Eating and drinking in areas where laboratory chemicals are stored or handled is prohibited. Workers should be directed to consume food and beverages outside the laboratory.				
<b>Vacuum systems (both house systems and stand-alone vacuum pumps) are fitted with traps and/or protection (HEPA/hydrophobic) filter, if required.</b>  <b>Description/Corrective Action:</b> Improper trapping can allow vapor to be emitted from the exhaust of the vacuum system, resulting in either reentry into the laboratory and building or potential exposure to maintenance workers.				
<b>PPE</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<b>Appropriate gloves are available for use with hazardous activities conducted within the laboratory.</b>  <b>Description/Corrective Action:</b> Gloves that are appropriate for the activity must be available in the laboratory. Chemical resistant gloves are required for handling hazardous materials.				
<b>Equipment or process sound levels do not exceed 85 dBA.</b>				

# LABORATORY SAFETY REVIEW CHECKLIST

**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**



<b>Descriptive/Corrective Action:</b> Protection against the effects of noise exposure shall be provided when the sound levels exceed 90 dBA for 8 hours. If the sound levels may exceed 85 dBA, a sound level check should be completed.				
<b>Face shields are worn as appropriate.</b>  <b>Description/Corrective Action:</b> Face shields must be worn over safety glasses or chemical splash goggles when using cryogenics, large amounts of corrosives, or other eye/face splash hazards.				
<b>Gloves are worn for laboratory procedures where skin contact with hazards may occur.</b>  <b>Description/Corrective Action:</b> Gloves are required for employees whose work involves exposure of hands to cuts; burns; harmful physical or chemical agents; or radioactive materials.				
<b>If applicable, respirator use has been evaluated by EH&amp;S and users are included in the campus respiratory protection program.</b>  <b>Description/Corrective Action:</b> Every employee that is required to wear a respirator must participate in the respiratory protection program which includes a medical evaluation and fit-testing.				
<b>If applicable, specialty PPE needed (i.e. UV/IR glasses, lab aprons, cryogenic gloves) is available in the laboratory.</b>  <b>Description/Corrective Action:</b> The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment.				
<b>Lab coats, appropriate to the activity, are worn.</b>  <b>Description/Corrective Action:</b> An appropriate lab coat must be worn when actively working in the laboratory unless an exemption to the UCOP PPE policy has been granted.				
<b>Lab coats, properly fitted, are available.</b>  <b>Description/Corrective Action:</b> Employer is responsible for providing required PPE for protection against hazardous materials.				
<b>Lab workers remove gloves before accessing common items, door knobs, elevator buttons, etc.</b>  <b>Description/Corrective Action:</b> Gloves should be removed before exiting the laboratory. In the event that hand protection is required for transport of chemical, one glove should be removed to access common items.				
<b>Long pants (legs covered) and closed-toe/heel shoes are worn in the lab.</b>  <b>Description/Corrective Action:</b> UCOP PPE policy requires that long pants or equivalent and close-toed/close-heeled shoes be worn in the laboratory unless an exemption to the policy has been granted.				
<b>Safety glasses or chemical splash goggles are worn in the laboratory when there is a risk of eye injury.</b>				



**LABORATORY SAFETY  
REVIEW CHECKLIST**  
**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

**UC DAVIS**

<b>Description/Corrective Action:</b> Eye protection is required when there is a risk of eye injury, such as puncture, abrasion, contusion or burn as a result of contact with flying particles, hazardous substances, projections or injurious light rays.				
<b>Safety Equipment</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<b>A plumbed emergency eyewash /safety shower or emergency eyewash is immediately available where corrosive liquids are handled or used.</b>  <b>Description/Corrective Action:</b>  <b>Description/Corrective Action:</b> An emergency eyewash or emergency eyewash/safety shower must be available in the room where corrosive liquids are handled or used.				
<b>A plumbed emergency eyewash/safety shower or emergency eyewash is available within 10 seconds.</b>  <b>Description/Corrective Action:</b> An emergency eyewash and deluge shower must be accessible within 10 seconds of all chemical splash or eye injurious hazards.				
<b>Access to emergency eyewash/shower is free of items that obstruct their use.</b>  <b>Description/Corrective Action:</b> The area of the eyewash and shower equipment must be free of items that obstruct their use.				
<b>Annual test of emergency eyewash/safety shower or emergency eyewash has been completed or documented.</b>  <b>Description/Corrective Action:</b> A flow verification test and inspection of plumbed eyewash and shower equipment must be completed annually.				
<b>Appropriate chemical spill kit is available.</b>  <b>Description/Corrective Action:</b> Spill control kits tailored to deal with the potential risk associated with the materials being used in the laboratory are required.				
<b>Calcium gluconate for Hydrofluoric acid (HF) exposure first aid is available. Calcium gluconate has not expired. Training on HF first aid is documented.</b>  <b>Description/Corrective Action:</b> Exposure to HF can lead to hypocalcemia. Therefore, hydrofluoric acid exposure is often treated with calcium gluconate, a source of Ca <sup>2+</sup> that sequesters the fluoride ions. Non-expired calcium gluconate should be available and staff should be trained in HF first aid.				
<b>First Aid Kit is available.</b>  <b>Description/Corrective Action:</b> Title 8, §3400 requires adequate first-aid materials be readily available for employees on every job. Purchase simple first aid kit and replenish as needed.				
<b>Monthly activation of emergency eyewash/safety shower is documented.</b>  <b>Description/Corrective Action:</b> Plumbed eyewash and shower equipment must be activated at least monthly to flush the line and verify operation.				
<b>Seismic</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>

# LABORATORY SAFETY REVIEW CHECKLIST

**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

# UC DAVIS

<b>Heavy items and precariously situated items are not stored on higher shelves.</b>  <b>Description/Corrective Action:</b> For seismic concerns, heavier items must be secured or placed on lower shelves.				
<b>Large equipment is seismically anchored.</b>  <b>Description/Corrective Action:</b> To reduce potential injury and the blocking of doors and/or exits during seismic events, items over 5' tall, i.e., file cabinets, bookcases and other tippable items, should be anchored.				
<b>Overhead storage is secured.</b>  <b>Description/Corrective Action:</b> To decrease the potential for injury or blocking aisles during seismic events, items stored overhead must be secured. Either move overhead storage or secure.				
<b>Shelves have restraints to prevent items from falling.</b>  <b>Description/Corrective Action:</b> Shelves used for the storage of hazardous materials must have a lip or guard to reduce the potential for chemical spills during a seismic event.				
<b>Training</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<b>Laboratory personnel have completed UC Laboratory Safety Fundamentals training.</b>  <b>Description/Corrective Action:</b> All laboratory workers are required to complete the UC Laboratory Safety Fundamentals e-Course prior to beginning work in the laboratory and every three years thereafter. Log on to LMS and complete required e-Course.				
<b>Specialized training for lab-specific hazards has been documented.</b>  <b>Description/Corrective Action:</b> Documented training is required for all hazardous substances, processes, procedures and equipment in the work area (regulated carcinogens, Blood borne Pathogens, radiation, lasers use, etc.). Site-specific orientation training is required for all new laboratory personnel.				
<b>Spill response training is documented.</b>  <b>Description/Corrective Action:</b> All employees should be trained in the appropriate spill response procedures for both minor and major chemical spills. Annual retraining is required.				
<b>Training on laboratory specific Standard Operating Procedures (SOP) is documented.</b>  <b>Description/Corrective Action:</b> Documented training on all SOPs is required and specific and unambiguous training records must be available upon request.				
<b>Training on the Chemical Hygiene Plan is documented.</b>  <b>Description/Corrective Action:</b> Documented training is required for the Chemical Hygiene Plan.				
<b>Training on the Emergency Action Plan is documented.</b>  <b>Description/Corrective Action:</b> Documented training is required for the Emergency Action Plan. Annual retraining is required.				

# LABORATORY SAFETY REVIEW CHECKLIST

**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

# UC DAVIS

<b>Training on the Injury and Illness Prevent Plan (IIPP) is documented.</b>  <b>Description/Corrective Action:</b> Documented training is required for the IIPP. Annual retraining is required.				
<b>Training to manage or handle hazardous waste is documented.</b>  <b>Description/Corrective Action:</b> Laboratory workers that generate or handle hazardous waste must be trained in storing, labeling, proper disposal and accumulation times for hazardous waste.				
<b>Waste</b>	<b>Yes</b>	<b>No</b>	<b>Corrected</b>	<b>NA</b>
<b>All containers holding hazardous waste are closed except when adding or removing waste.</b>  <b>Description/Corrective Action:</b> A container holding hazardous waste must be closed except when adding or removing waste.				
<b>All hazardous waste containers are compatible with the contents and in good condition.</b>  <b>Description/Corrective Action:</b> All hazardous waste containers must be compatible with the contents and in good condition. If a container holding hazardous waste is not in good condition, or if it begins to leak, the contents shall be transferred into a container that is in good condition. A container shall be made of or lined with materials which will not react with and are otherwise compatible with, the hazardous waste to be transferred or stored, so that the ability of the container to contain the waste is not impaired.				
<b>All sharps are disposed of in a sturdy container or a hard-walled sharps container (non-red without biohazard label or red with biohazard) as appropriate.</b>  <b>Description/Corrective Action:</b> All sharps must be disposed of in a sturdy container (clean lab glass) or a hard-walled sharps container (non-red without biohazard label or red with biohazard) as appropriate. Improper disposal of sharps can cause injury and can also be a source of infectious, chemical or radiological aerosol and surface contamination.				
<b>Biomedical waste containers have a tight-fitting lid in place.</b>  <b>Description/Corrective Action:</b> Biomedical waste containers must have a tight-fitting lid in place to prevent leakage during collection, handling, processing, storage, transport or shipping.				
<b>Biomedical waste in red bags is being properly disposed in accordance with UCD Policy.</b>  <b>Description/Corrective Action:</b> All red bag waste must be disposed of in accordance with the Medical Waste Management Act.				
<b>Biomedical waste secondary containment is used.</b>  <b>Description/Corrective Action:</b> If the outside of the primary biomedical container is contaminated, the primary container shall be placed in a second container which prevents leakage during collection, handling, processing, storage, transport or shipping.				
<b>Hazardous waste is being properly disposed through EH&amp;S.</b>  <b>Description/Corrective Action:</b> All hazardous waste must be disposed of through EH&S not evaporated in fume hoods or disposed of in regular trash.				

**LABORATORY SAFETY  
REVIEW CHECKLIST**  
**ENVIRONMENTAL HEALTH & SAFETY**  
**ONE SHIELDS AVENUE**  
**DAVIS, CA 95616**  
**(530) 752-1493**

**UC DAVIS**

<p><b>Hazardous waste in secondary containment.</b></p> <p><b>Description/Corrective Action:</b> All hazardous waste must be managed so as to ensure that incompatible laboratory wastes are not mixed, and are otherwise prevented from coming in contact with each other. All hazardous materials must be in secondary containment.</p>				
<p><b>Hazardous waste is not being accumulated beyond regulatory time limits (i.e., 90 days for extremely hazardous waste, 9 months for other hazardous waste).</b></p> <p><b>Description/Corrective Action:</b> Extremely Hazardous waste may be accumulated for no greater than 90 days and other hazardous waste for no greater than one year. Due to EH&amp;S waste processing time, hazardous waste can be held in laboratory no longer than 9 months.</p>				
<p><b>Hazardous waste is properly labeled.</b></p> <p><b>Description/Corrective Action:</b> Hazardous waste must be labeled with "Hazardous Waste", the start date of accumulation, the contents, the hazard classification, the physical state and the name and address of the person producing the waste.</p>				
<p><b>Sharps containers are properly labeled, as to contents, hazard, etc.</b></p> <p><b>Description/Corrective Action:</b> Sharps containers must be labeled with the words "sharps waste". Biohazard sharps containers must include the international biohazard symbol and the word "BIOHAZARD".</p>				
<p><b>Sharps container's contents are not past the fill line.</b></p> <p><b>Description/Corrective Action:</b> Sharps containers must be prepared for disposal when <math>\frac{3}{4}</math> full and be taped closed or tightly lidded to preclude loss of contents.</p>				
<p><b>Universal waste is properly labeled/discarded/contained.</b></p> <p><b>Description/Corrective Action:</b> Universal waste must be contained in a manner that prevents breakage and release of components to the environment. The container shall be structurally sound and compatible with the contents. Universal waste must be labeled or marked to identify the type of universal waste (i.e. Universal Waste-Battery(ies), Universal Waste-Mercury-Containing Equipment, Universal Waste-CRT(s)). Universal waste shall be accumulated for no longer than one year from the date the universal waste was generated, or received from another universal waste handler.</p>				

# IIPP – Appendix D

## January 2016

Please access the [Injury Reporting Procedure](#) page on the Safety Services website.

<http://safetyservices.ucdavis.edu/article/injury-reporting-procedure>

Complete the electronic [Employer's First Report](#) as soon as practicable.

UCD Employer's Report of Occupational Injury or Illness			
UNIVERSITY POLICY REQUIRES THAT INDUSTRIAL INJURY/ILLNESS BE REPORTED TO WORKERS' COMPENSATION WITHIN 24 HOURS OF OCCURRENCE AND STATE REGULATIONS REQUIRE THAT ALL ACCIDENTS BE INVESTIGATED. In the event of a serious injury or hospitalization, call Workers' Compensation immediately at (530) 752-7243. This form must be completed in its entirety and mailed or faxed (530) 752-3439 to Workers' Compensation. Omission of information could result in a delay of benefits.			
<b>EMPLOYEE MUST COMPLETE THESE SECTIONS:</b>			
EMPLOYEE DATA	Employee Name:		Employee's UCDavis ID #:
	Address:		Home Phone: ( )
	City/State/Zip:	Sex: <input type="checkbox"/> Female <input type="checkbox"/> Male	Date of Birth:
	Department/Location:		Employee's Work Phone: ( )
	Payroll Title/TC:	Date of Hire:	Annual Gross Salary: \$
	Supervisor's Name:		Supervisor's Work Phone: ( )
	Employee ( ) Volunteer ( ) Student-Employee ( )		( ) hours per day ( ) days per week ( ) total weekly hours
	Specific Injury/Illness/Exposure:		
EMPLOYEE STATEMENT	Location where injury or illness occurred:		Others Injured? <input type="checkbox"/> Yes <input type="checkbox"/> No
	What equipment, materials or chemicals caused the injury/illness? :		Who witnessed this injury?
	Explain in detail how the injury occurred. Include specific activities/tasks performed at the time.		
	Medical Treatment provided by: ___ Employee Health Services ___ Sutter Davis Hospital ER ___ Private Physician ___ UC Davis Medical Center ___ First Aid, no medical care needed.		
	Employee Signature:		Today's Date:
	Other: (Provide Name & Phone #) _____		
<b>EMPLOYER'S INVESTIGATION AND STATEMENT (EMPLOYER COMPLETES):</b>			
EMPLOYER	After the investigation, explain in detail how the injury/illness occurred and the specific activity being performed:		
	What was the injury, illness or exposure?		
INITIAL CAUSE	CONTRIBUTING FACTORS AND ACTIVITIES		PREVENTIVE ACTIONS
<input type="checkbox"/> Struck by or against object (indicate)  <input type="checkbox"/> Caught in/under/between <input type="checkbox"/> Fall / Slip / Trip <input type="checkbox"/> Material handling or lifting <input type="checkbox"/> Repetitive motion <input type="checkbox"/> Chemical exposure <input type="checkbox"/> Body fluid exposure: ___ Needle stick ___ Sharps <input type="checkbox"/> Animal bite <input type="checkbox"/> Other, Explain _____	<b>Equipment</b> <input type="checkbox"/> Equipment failure <input type="checkbox"/> Equipment unavailable <input type="checkbox"/> Improper equipment or material used for job <b>Personal protective equipment</b> <input type="checkbox"/> Not worn <input type="checkbox"/> Not readily available <input type="checkbox"/> Not adequate for the task <input type="checkbox"/> Personal protective equipment failure <b>Training/Experience</b> <input type="checkbox"/> Lack of training <input type="checkbox"/> Safety training provided, not followed <input type="checkbox"/> New task for employee or lack of experience <b>Work Area</b> <input type="checkbox"/> Work area set up improperly <input type="checkbox"/> Inadequate lighting or noise issues <input type="checkbox"/> Housekeeping issues <input type="checkbox"/> Environmental factors (rain, wind, temp. etc)	<input type="checkbox"/> Ventilation issues <input type="checkbox"/> Ergonomic factors <b>Employee</b> <input type="checkbox"/> Physically not able to do work <input type="checkbox"/> Employee fatigue <input type="checkbox"/> Unbalanced or poor position or motion <input type="checkbox"/> Incorrect procedures used for task <input type="checkbox"/> Other unsafe practice <b>Assistance</b> <input type="checkbox"/> Difficult to perform task without help <input type="checkbox"/> Safety features or devices not readily available <input type="checkbox"/> Assistive devices not used <input type="checkbox"/> Lack of policy/procedure <input type="checkbox"/> Animal (explain below) <input type="checkbox"/> Other (explain) _____	<b>SUPERVISOR WILL:</b> <input type="checkbox"/> Develop/revise safety procedures and update IIPP or Chem. Hyg. Plan <input type="checkbox"/> Request ergonomic evaluation <input type="checkbox"/> Order new equipment <input type="checkbox"/> Order new personal protective equipment <input type="checkbox"/> Remove equipment from use and repair/replace <input type="checkbox"/> Schedule preventive maintenance <input type="checkbox"/> Will retrain employee before task is re-assigned. <input type="checkbox"/> Perform on-site review of work activity, update job safety analysis. <input type="checkbox"/> Reconfigure work area <input type="checkbox"/> Communicate corrective actions to others in job category. <input type="checkbox"/> Other _____  <b>Preventive actions will be completed by:</b> Name _____ Expected date of completion _____
<b>SUPERVISOR'S OR MANAGER'S SIGNATURE:</b> _____			<b>Date of Investigation:</b> _____
<b>DEPARTMENT HEAD'S SIGNATURE:</b> _____			<b>Date:</b> _____

PLEASE NOTE: COMPLETING THIS FORM IS NOT AN ADMISSION OF UNIVERSITY LIABILITY

7/2011 ER: WC/H/MJB

SAFETY TRAINING ATTENDANCE RECORD

Training Topic: \_\_\_\_\_ Date: \_\_\_\_\_  
(attach a copy of the training session curriculum)

Instructor: \_\_\_\_\_ Training Aids: \_\_\_\_\_

Location: \_\_\_\_\_ Time: \_\_\_\_\_

Attendees – Please print and sign your name legibly. Use additional sheets if necessary.

No.	Print Name	Signature/Date
1.	_____	_____
2.	_____	_____
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## Appendix B: Job Safety Analysis

Job Function	Potential Health or Injury Hazard	Safe Practice, Apparel, or Equipment
Performing work in laboratories containing chemicals.	Exposure to chemicals via inhalation, contact, ingestion or injection.	Avoid all unnecessary exposures. Reduce exposures that cannot be avoided by minimizing exposure duration and concentration. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. All personnel to receive UC Laboratory Safety Fundamentals, MAE Safety training, Site-specific training including Chemical Hygiene Plan or Hazard Communication Program, Hazardous Waste Management and Minimization Training and other applicable courses before beginning work.
Performing work in laboratories containing radiological materials.	Exposure to radiological agents via inhalation, contact, ingestion or injection.	Avoid all unnecessary exposures. Adhere to radiological material handling procedures including limiting exposures through combination of minimizing time, maximizing distances and use of appropriate shielding. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Participation in radiological monitoring program including dosimetry. All personnel to receive UC Laboratory Safety Fundamentals, MAE Safety training, Site-specific training including Chemical Hygiene Plan or Hazard Communication Program, Radiation Safety training and other applicable courses before beginning to work.
Performing work in laboratories containing biological materials.	Exposure to biological agents via inhalation, contact, ingestion or injection.	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Proper adherence to blood borne pathogen handling protocols. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Voluntary participation in Hepatitis B vaccination program. Proper adherence to biological waste handling procedures. All personnel to attend UC Laboratory Safety Fundamentals, MAE Safety training, Site-specific training including Chemical Hygiene Plan or Hazard Communication Program, EH&S Blood borne Pathogen Program training and other applicable courses before beginning to work. Participation in Facilities- specific medical clearances as required.
Performing work in laboratories, shops and spaces containing physical hazards.	Injury from physical hazards including high voltage, lasers and ultraviolet light, compressed gases and liquids, cryogenic materials, and specialized equipment as well as falling objects.	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear and specialized equipment. Employees are not to enter restricted areas unless accompanied by a properly trained individual familiar with the hazards of the area. Employees are not to operate specialized equipment without proper training and documentation. Watch for overhead hazards and wear head protection if needed. All personnel to attend UC Laboratory Safety Fundamentals, MAE Safety training, Site-specific training including Chemical Hygiene Plan or Hazard Communication Program, and other applicable courses before beginning to work.
Performing work in laser laboratories.	Potential exposure to specular or diffuse reflections.	Avoid all unnecessary exposures to Class 3b and 4 laser beams. Intrabeam viewing is strictly forbidden at UC Davis. Proper laser safety eyewear is mandatory when the laser is activated unless the beam has been enclosed which effectively changes the class of the laser to a Class 1 (eye safe). When aligning the laser, power down with a visible beam, preferably a Class 3a HeNe. Alignment eyewear is available but once the laser is aligned do not assume that it is eye safe, wear your laser safety eyewear. When choosing proper eye protection one must take into account the power or energy and the wavelength of the laser or laser system. Contact the campus Laser Safety Officer to calculate the Optical Density for your eyewear or check with your Principle Investigator. Employees are not to operate lasers or laser systems without proper training and documentation. Employees or visitors must take the UC Davis Laser Safety Class and be trained on the specific laser they will be using. A Standard Operating Procedure must be in place for each laser or laser system before use. Be aware that there are ancillary hazards associated with the laser and take appropriate precautions. Personnel routinely entering areas where lasers are used will receive UC Laboratory Safety Fundamentals, MAE Safety training, Site-specific training including Chemical Hygiene Plan or Hazard Communication Program, Laser Safety training, and other applicable courses before beginning work.



Job Function	Potential Health or Injury Hazard	Safe Practice, Apparel, or Equipment
Performing work in laboratories and animal housing facilities containing animals.	Exposure to animals and animal allergies via inhalation and contact	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Proper adherence to animal care and use protocols. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Participation in the occupational health program for animal workers. All personnel to receive UC Laboratory Safety Fundamentals, MAE Safety training, Site-specific training including Chemical Hygiene Plan or Hazard Communication Program, the IACUC Animal Care and Use 101, and other applicable courses before beginning work. Participation in Facilities- specific medical clearances as required.
Handling and moving heavy items and equipment.	Ergonomic hazards including heavy lifting, repetitive motions, awkward motions, crushing or pinching injuries etc.	Get help with all loads that cannot be safely lifted by one person. Use mechanical means to lift and move heavy items, push carts and dolly rather than pull, attend back safety class, employ proper lifting techniques at all times. Set up work operations as ergonomically safe as practical. Wear proper hand and foot protection to protect against crushing or pinching injuries. All personnel to receive MAE Safety training, Site-specific training, and other applicable training before beginning to work.
Operation of motor vehicles	Motor vehicle accidents involving personal injury, or property damage	All drivers of University vehicles must attend the Driver Safety Awareness Course offered by Fleet Services and possess a valid California driver license. Hazardous materials may not be transported in personally owned vehicles. All personnel to receive MAE Safety training, Site-specific training, and other applicable training before beginning to work.
Exposure to noise hazards	Hearing loss due to noise exposure	Voluntarily participate in the Hearing Conservation Program. Use hearing protection as required. All personnel to receive MAE Safety training, Site-specific training, and other applicable training before beginning to work.
General office work	Back strain, eyestrain, repetitive motion injury. Physical injuries due to slips, trips and falls, and falling objects. Electrical hazards. Physical injuries due to fires, earthquakes, bomb threats and workplace violence.	Ensure that workstations are ergonomically correct. Keep floors clear of debris and liquid spills. Keep furniture, boxes, etc. from blocking doorways, halls and walking space. Do not stand on chairs of any kind, use proper foot stools or ladders. Do not store heavy objects overhead. Do not top load filing cabinets, fill bottom to top. Do not open more than one file drawer at a time. Brace tall bookcases and file cabinets to walls. Provide one-inch lip on shelves. Do not use extension cords in lieu of permanent wiring. Ensure that high wattage appliances do not overload circuits. Use GFCIs in receptacles in potentially wet areas. Replace frayed or damaged electrical cords. Ensure that electrical cords are not damaged by being wedged against furniture or pinched in doors. Attend emergency action and fire prevention plan training including emergency escape drills. Plan for methods to seek help in case of a workplace violent situation.  All personnel to receive MAE Safety training, Site-specific training, and other applicable courses before beginning to work.



# Department Information

Department Name: **Mechanical and Aerospace Engineering**

Department Director: **Cristina Davis**

Address: **2132 Bainer Hall • One Shields Avenue • Davis, CA 95616-5294**

Telephone Number: **(530) 752-0580**

## Buildings Occupied by Department (CONTINUED)

**5. Building: ATIRC**

**Unit(s): Advanced Transportation Infrastructure Research Center (ATIRC)**

**Contact: Wil White, Krasen Kovachev**

**Phone: 530-752-1455, 530-752-8488**

**6. Building: UC Davis Coffee Center**

**Unit(s): Advanced Materials Research Laboratory (AMRL)**

**Contact: Garrett Robertson, Krasen Kovachev**

**Phone: 510-396-2169, 530-752-8488**

**7. Building: STEEL**

**Unit(s): Solar Thermal Energy Enhancement Lab (STEEL)**

**Contact: Erfan Rasouli, Krasen Kovachev**

**Phone: 530-752-9232, 530-752-8488**

**8. Building: Spafford**

**Unit(s): Center for Spaceflight Research (CFSR)**

**Contact: Tammer Barkouki, Krasen Kovachev**

**Phone: 530-902-7600, 530-752-8488**

## Site-Specific Safety Orientation & Training for New Personnel (HazCom Spaces)

**Supervisor or Designated Trainer:** Review and select topics below that are applicable to the employee/trainee. Mark programs with an "X" if applicable or "NA" if not applicable. Add additional topics/programs under the "Other" column. Campus-wide applicable topics are identified with an "X". Review identified topics with trainee and provide or schedule training. Training must be completed **prior** to trainee engaging in hazardous tasks. Enter initial and date in "Trainer Initial/Date" column upon completion of training. Retain record for at least three years.

**Employee/Trainee:** Review applicable topics with Supervisor or Designated Trainer. Enter initial and date in "Trainee Initial/Date" column once training is completed. Initial and date only if your questions regarding the material have been completely answered.

### Trainee

(Print Name/ Signature/Date) \_\_\_\_\_

Department \_\_\_\_\_

### Supervisor/Trainer

(Print Name/Signature/Date) \_\_\_\_\_

Supervisor/Trainer Job Title \_\_\_\_\_

Applicable	Trainee Initial	Topic	Action
<b>EMERGENCY PROCEDURES</b>			
X		Emergency Action Plan	Review Emergency Action Plan. Demonstrate both paths to Emergency Assembly Area.
X		Emergency Response Guide	Location(s) of flipchart guide, discuss scenario actions.
X		Fire Alarm Pull Station	Show location(s) and proper activation.
X		Injury Reporting	Review immediate reporting of work-related injuries and illnesses to supervisor. Use <a href="#">online injury reporting form</a> .
X		Phone	Location(s), detailed dialing instructions, '911' dialing instructions, bomb threat card.
X		Warn Me	Enroll in UC Davis <a href="#">Warn Me</a> emergency alert system, recommend registering cellular phone number. <a href="https://warnme.ucdavis.edu/">https://warnme.ucdavis.edu/</a>
X		Eye Wash/Safety Shower	Show location(s) and proper operation.
X		First Aid Kits	Location(s) and description of contents.
X		Spill Procedures	Show location of spill kit(s), SafetyNets <a href="#">#13</a> and <a href="#">#127</a> (if applicable), and describe procedures.
<b>PROGRAMS</b>			
X		<a href="#">Injury and Illness Prevention Program (IIPP)</a>	Review content and location of IIPP; emphasis on annual review of Job Safety Analysis, injury and hazard reporting and training documentation.
		<a href="#">Confined Space Entry (CSE)</a>	Review <a href="#">Cal/OSHA requirements</a> . Show confined space 'permit-required' locations, train on proper completion of the CSE permit and use of equipment and personal protective equipment (PPE).
		Crane operation, hoisting and rigging	Per <a href="#">Cal/OSHA</a> only <i>qualified employees</i> and trained employees can operate cranes and need training on <a href="#">Indoor Hoisting and Rigging</a> . Review <a href="#">Cal/OSHA operating rules</a> .
		<a href="#">Electrical Safety</a>	Complete <a href="#">Electrical Safety</a> training; requirements for lockout and verification testing of energized equipment; if working "hot", proper use of arc-rated clothing/PPE based on an NFPA 70e arc-flash assessment; and shock hazard analysis insulated tools.
		<a href="#">Ergonomics</a>	Train employee on proper body mechanics

Applicable	Trainee Initial	Topic	Action
		Fall Protection	Review the <a href="#">Cal/OSHA requirements</a> . Training on proper inspection, use and wear of harnesses, lanyards for restraint, positioning or arrest. Review identified compliant anchorage locations, areas requiring proper use of beam wraps, and connections to existing SRL's, existing vertical/horizontal lifelines, overhead systems, or cable/rope grabs.
		<a href="#">Forklift and Aerial Lift Operations</a>	Review required use of written pre-use inspection (forklift & aerial lift) and site assessment (aerial lift) forms. Training must include lecture and practical 'hands on' demonstration of skills.
		<a href="#">Hazard Communication Program</a>	<a href="#">General HazCom Program</a> location and content description. <a href="#">Department-Specific HazCom Program Summary</a> location and content. Demonstrate electronic SDS access and describe repository of hard copies, if applicable. Maintain chemical inventory in <a href="#">CIS</a> .
		<a href="#">Hearing Conservation</a>	Employees exposed at or above a time-weighted average of 85 dBA must participate in the Hearing Conservation Program
		<a href="#">Heat Illness</a>	Train employees who work outdoors on <a href="#">heat illness prevention</a>
		Lockout/Tagout	For employees 'authorized' to work on energized equipment, show the energy isolation, lockout locations for equipment, review <a href="#">Cal/OSHA requirements</a> for lockout, and review of written lockout/tagout procedures.
		Operating Tractor	Review the <a href="#">operating rules</a> and for hands on training.
		Shop Safety Program	Review and train on the <a href="#">Shop Safety Manual</a> , the site specific <a href="#">Shop Safety Plan</a> , and equipment SOPs.
		Welding and Cutting	Review the 72 hour <a href="#">hot work permit requirements</a> . Provide <a href="#">Cal/OSHA compliant ventilation</a> and respiratory protection as needed.
		Other (describe)	
PERSONAL PROTECTIVE EQUIPMENT			
X		Hazard Assessment	Review completed Job Safety Analysis (JSA) as per IIPP. See <a href="#">JSA/PPE Certification Forms</a> .
		PPE Certification	If PPE is identified in JSA, compete and review PPE certification form; provide properly fitted PPE; demonstrate proper selection, use, care and storage.
		Specific PPE	Protection for: <input type="checkbox"/> Head <input type="checkbox"/> Eye/Face <input type="checkbox"/> Body <input type="checkbox"/> Lungs <input type="checkbox"/> Upper Extremity <input type="checkbox"/> Lower Extremity <input type="checkbox"/> List Specific PPE: _____
OTHER			
		<a href="#">Chemical Fume Hood(s)</a>	Demonstrate proper use, instruction on adjustable controls, flow sensor function, and training requirements.
		Chemical Storage Location(s)	Location(s) and segregation rules, volume limits (>10 gallons requires flammable storage cabinet).
		Compressed Gas Cylinders	Storage locations, regulators, transport, safety considerations.
		Glass & Sharps Waste Containers	Location(s) of accumulation area, demonstrate proper labeling, describe proper storage requirements, and detail pickup/removal procedures.
		<a href="#">Hazardous Waste</a>	Overview of <a href="#">WASTE</a> and hazardous waste procedures. Location(s) of accumulation area, demonstrate proper labeling, describe proper storage requirements, and detail pickup/removal procedures.
		Needle sticks	Train on needle and syringe safety ( <a href="#">SafetyNet #62</a> )
		Specialized Equipment	Review safety procedures for proper operation. e.g., UV light, laser, high voltage equipment, autoclave, cryogen handling. List specialize equipment: _____

*University of California, Davis*  
*Department of Mechanical and Aerospace Engineering*

## **ANNUAL AND INITIAL SAFETY TRAINING** **ATTENDANCE RECORD**

Instructor:	Location: <b>ZOOM ID:</b>	Date:	Time:	Length: <b>45 mins</b>
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We are legally required to maintain records regarding our safety training activities. Please assist us by providing the information indicated below to document your attendance. Thank you.

Topics Covered in Training:

**I. ☒ Injury and Illness Prevention Plans**

- ✓ The general contents of department IIPPs
- ✓ My right to ask any question, or report any safety hazards, either directly or anonymously without any fear of reprisal.
- ✓ The location of departmental safety bulletins and required safety postings.
- ✓ Reporting safety concerns.
- ✓ Accessing the department safety coordinator.
- ✓ Reporting occupational injuries and illnesses.

**II. ☒ Hazard Communication Training**

- ✓ The potential occupational hazards in the work area associated with my job assignment.
- ✓ The safe work practices and personal protective equipment required for my job title.
- ✓ The location and availability of Material Safety Data Sheets (MSDS).
- ✓ The hazards of any chemicals to which I may be exposed, and my right to the information contained on SDSs for those chemicals.

**III. ☒ Emergency Action Plan (EAP)**

- ✓ Emergency escape routes and procedures and Emergency Assembly Area (EAA)
- ✓ How to report a fire and other emergencies.
- ✓ Names or regular job titles of persons to be contacted for further information.

**IV. ☒ Guidelines for Chemical Spill Control and Waste Disposal (Safety Nets 13, 16, 8, 43)**

- ✓ Chemical Hygiene Plans
- ✓ Proper response procedures for chemical spills.
- ✓ Proper approach to chemical waste disposal.

Name <i>(Please Print)</i>	Email <i>(@UCDAVIS.EDU)</i>	Signature	PI/Supervisor
1.			
2.			
3.			
4.			
5.			
6.			

**University of California, Davis**  
**Department of Mechanical and Aerospace Engineering**

<b>Name (Please Print)</b>	<b>Email (@UCDAVIS.EDU)</b>	<b>Signature</b>	<b>PI/Supervisor</b>
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