Safety Seminar Topics

- Injury and Illness Prevention Plan (IIPP) Department
- Training UCOP
- Hazard Communication (HazCom) PI with EH&S
- Emergency Action Plan (EAP) Department
- Ergonomics PI and Safety Services
- Safety Services Resources - http://safetyservices.ucdavis.edu/
Injury and Illness Prevention Plan (IIPP)

• Management commitment/assignment of responsibilities
• Safety communications system with employees
• System for assuring employee compliance with safe work practices
• Scheduled inspections/evaluation system
• Procedures for correcting unsafe/unhealthy conditions
• Safety and health training and instruction
• Recordkeeping and documentation
• Accident Investigation
Most Likely Injuries - Training

1. Transportation injuries – LMS Safe Driver Series
2. Slips, trips, and falls – LMS Fall Protection, Ladder Safety, and Sprains and Strains
3. Violence by people and animals - LMS Violence Prevention
4. Hazardous equipment – JSA and HazCom
5. Hazardous environment – JSA and HazCom
6. Fires and explosions – LMS Emergency Response
Contributors to Accidents

States (cause)  Errors (which cause)  Less Risk (to become)  More Risk

- Rushing
- Frustration
- Fatigue
- Complacency

- Eyes not on task
- Mind not on task
- Line-of-fire
- Balance, traction, grip

Major
Minor
Close Calls
Hazards

To become

Major
Minor
Close Calls
Hazards with a critical error
BASIC SAFETY PRINCIPLES

- Walkways clear of obstruction
- Risk assessments
- Clean up spills
- Neat & tidy workplaces
What are some of the hazards we encounter in offices?

- Ergonomic issues;
- Fire & evacuation;
- Electrical cords & equipment;
- Heat-generating sources;
- Hand & powered tools & equipment;
- Office machines (copiers, paper cutters, shredders, jammed machines);
- Office chemicals;
- Slips, trips, falls;
- Housekeeping;
- Furniture/layout;
- Motor vehicle accidents.
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.

This guy needs a JSA.
# Job Safety Analysis

<table>
<thead>
<tr>
<th>EMPLOYEE: ENTER EMPLOYEE NAME</th>
<th>JOB SAFETY ANALYSIS</th>
<th>DEPT:</th>
<th>LOCATION</th>
<th>JOB TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOB FUNCTION</td>
<td>POTENTIAL HEALTH OR INJURY HAZARDS</td>
<td>EH&amp;S</td>
<td>All</td>
<td>DSA</td>
</tr>
<tr>
<td>Handling and moving heavy items and equipment</td>
<td>Ergonomic hazards including heavy lifting, repetitive motions, awkward motions, crushing or pinching injuries etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation of Motor vehicles</td>
<td>Motor vehicle accidents involving personal injury, or property damage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General office work.</td>
<td>Backstrain, 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.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SAFE PRACTICE, APPAREL, OR EQUIPMENT**

- **Handling and moving heavy items and equipment.**
  - 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.

- **Operation of Motor vehicles.**
  - All drivers of UCD vehicles (greater than 10% of your job) should take the online Safe Driver Awareness Course offered by the UC Learning Center and possess a valid California drivers license. Hazardous materials may not be transported in personally owned vehicles.

- **General office work.**
  - 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 topload 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 GFI’s 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. Attend Workplace Violence training offered by UC Davis Police Department.
| An Injury or Illness Investigation | Train employees on reporting injuries or illnesses as soon as possible, employees & supervisors on how to access and complete the online injury reporting form, supervisors to interview employees and document injury details plus establish effective corrective actions (i.e., training, new tools or equipment, modifications, etc.) | Y | Initial | Supervisors/ACCident Investigators | Employees file Report Injury/Illness

| 2 | Accident Prevention Signs and Tags | Post signs and tags for Danger, Caution or Warning or obtain any labels you need made from EH&AS to increase safety awareness around equipment | Y | Initial | Impacted Employees | Sign Installation

| 23 | Emergency Action Plan | A written EAP program on fall plus evacuation routes. Assembly areas established, posted and employees trained | Y | Initial and with Annual Plan Update | Impacted Employees | Emergency Action Plan

| 28 | Fire Extinguisher & Fire Fighting Equipment | An educational program or instructional training to familiarize employees with the general principles of fire extinguisher use and the hazards involved with improper use of fire fighting when first employed and annually thereafter. | Y | Initial Annual | Assigned Employees | Employee Access & Training

| 37 | Hazard Communication | Maintain an inventory of hazardous chemicals, insure all containers are labeled including secondary containers, keep an inventory of SDS up-to-date and employee training on how to read SDS, the hazards and PPE required when working around hazardous chemicals | Y | Initial New chemicals or processes | Exposed Employees | Hazard Communication

| 43 | Injury & Illness Prevention (Job Hazard Analysis JHA) | Initially for new employees, an annual update and reminder for all | Y | Initial and Annual | All Employees | HSE Training

| 44 | Ladder Safety | Employee Training. Before an employee uses a ladder, the employee shall be provided training in the safe use of ladders. Supervisors of employees who routinely use ladders must also have ladder safety training. The training may be provided by the employer's Injury and Illness Prevention Program required by Section 3003 and must address the OSHA 7 specific topics (see link) | Y | Before Job Assignment | All Employees | Ladder Safety Training

| 45 | Material Handling and Storage | Purchasing, using and training employees how to use the correct material handling equipment for your departments needs. Hand truck, lightweight collapsible (folding) hand carts, cylinder trucks, trucks with brases, platform carts, table carts, stair climbing hand trucks, using straps slings to lift loads, pallet jack safety and fork lift (pallet jack) safety plus training requirements before use. Lightening the load, getting assistance, proper body mechanics moving a load and checking the transport path before moving materials (table clear, doors open, no slippery surfaces, blind corners, high traffic areas) | Y | Initial and Annual | Employees handling heavy loads; loading docks; materials receiving and transport | Material Handling

| 49 | Medical & Exposure Records Access | Employees can request access to medical exposure records and a response is required 15 days after the request. New employees when hired and at least annually must be informed of the existence, location, and availability of these records and who is responsible and maintaining plus providing record access. Each employee’s rights of access to these records and copies of this section/approved on file and available to employees | Y | Initial and Annual | Affected Employees | Access/medical Exposure Information

| 50 | Office Safety | Office hazard awareness and prevention, housekeeping, slips, trips and falls prevention, safe use file drawers and storage cabinets, basic electrical safety and panel access, back & lifting safety, step stools & ladders, material storage. Repetitive Motion injuries in proper PC and laptop set up, transporting materials | Y | Initial and Annual | Office workers |
Site-Specific Safety Orientation & Training for New Laboratory Personnel  
Revised - 10/2013

Prior to completing this site safety orientation and training, all laboratory personnel must have successfully completed the [UC Laboratory Safety Fundamentals](#) course. Completion of this training is required prior to personnel being granted unescorted access to the laboratory. This serves to satisfy components of the [University of California Policy - Laboratory Safety Training](#) and UC Davis policy [PPM290-56](#).

I ________________________ confirm receipt of training on the listed topics on

(date)  
(print name, trainer)

I ________________________ from ___________________________. All of my questions regarding

(print name, trainee)

this material have been answered. Topics have been initialed, or marked with an “X” where not applicable.

<table>
<thead>
<tr>
<th>Initial</th>
<th>Topic</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>EMERGENCY PROCEDURES</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fire Alarm Pull Station:</td>
<td>Show location(s) and proper activation.</td>
</tr>
<tr>
<td></td>
<td>Eye Wash / Safety Showers:</td>
<td>Show location(s) and proper operation.</td>
</tr>
<tr>
<td></td>
<td>Chemical Spill Procedure</td>
<td>Show location of spill kit(s), Safety Nets #13 and #127 (if applicable), and describe procedures.</td>
</tr>
<tr>
<td></td>
<td>First Aid Kits:</td>
<td>Location(s) and description of contents.</td>
</tr>
<tr>
<td></td>
<td>Phone:</td>
<td>Location(s), detail dialing instructions, ‘911’ dialing instructions, bomb threat card.</td>
</tr>
<tr>
<td></td>
<td>Emergency Response Guide:</td>
<td>Location(s) of flipchart guide, discuss scenario actions</td>
</tr>
<tr>
<td></td>
<td>Warn Me:</td>
<td>Enroll in UC Davis <a href="#">Warn Me</a> emergency alert system, recommend registering cellular phone number.</td>
</tr>
</tbody>
</table>

|         | **ENGINEERING CONTROLS** |        |
|         | Chemical Fume Hood(s): | Demonstration of proper use, instruction on adjustable controls, flow sensor function, and training requirements. |
|         | Biological Safety Cabinet(s): | Demonstration of proper use, instruction on adjustable controls and training requirements. |
LMS Safety Training Classes (Online and Instructor Led)

- Injury Prevention
- Emergency Preparedness
- General and Equipment Safety
- Ergonomics
- Lab Safety for Support Personnel
Managing LMS Safety Training

- Supervisors, administrators, and department safety coordinators can assign training
- You can follow up on training
- You can see what training is past due
- Safety inspectors can see what training individuals have completed and when
EH&S Safety Nets

- Personal and Workplace Safety (65)
- Fire Prevention (53)
- Occupational Health (46)
- Emergency Preparedness (16)
- Campus Environment (15)
- Risk Management Services (2)
- Food Safety (1)
Hazard Communication

• California Occupational Safety and Health Administration (Cal/OSHA) requires employers to inform employees about hazards associated with hazardous chemicals that are present in the workplace

• Industrial (Non-Laboratories) and manufacturing or commercial laboratories are subject to requirements of Title 8, CCR section 5194, “Hazard Communication” and are covered under the Hazard Communication Program requirements.
Hazard Communication

- The UC Davis Hazard Communication Program (HazCom) applies to industrial workplaces, manufacturing or commercial laboratories and activities such as animal husbandry areas, shops, custodial, craft centers, theaters and studios. The program requires employees to:
  - Maintain a hazardous chemical inventory in the UC Davis Chemical Inventory System
  - Maintain and have access to safety data sheets (formerly called material safety data sheets)
  - Understand hazards associated with chemicals they work with through labeling and other forms of warning
  - Receive safety training and other information to minimize the risks associated with the hazardous chemicals used in the work area
  - Develop, implement and maintain a written HazCom program (follow General HazCom Program and complete Department-Specific HazCom Program Summary).
SDS Information

- Identity of the chemical
- Hazardous nature of chemical
- Physical characteristic (e.g., boiling point)
- Fire and explosion information
- Reactivity data
- Health hazard data (e.g., health effects, symptoms)
- Personal protective equipment needed
- How to handle leaks, spills and disposal
- Special precautions
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

• Signal word – either **DANGER** or **WARNING**
• Precautionary statement indicating product handling to minimize risks to the user
• H200 Physical Hazard
• H300 Health Hazard
• H400 Environmental Hazard
• The lower the number within the category the higher the hazard i.e. H300 is more hazardous than H301 or H310
Hazard Symbols

Old Hazard Symbols

New Hazard Symbols

Dangerous to the Environment  Toxic  Pressurized Gas

Corrosive  Explosive  Flammable

Caution  Oxidizer  Long Term Health Risk
Cal/OSHA requires standard operating procedures (SOPs) be established for work with hazardous chemicals.

SOPs document the specific procedures for the safe handling, storage and disposal of hazardous chemicals.
Personal Safety
Lab Safety for Support Personnel
NO PANTS, NO SHOES
NO SCIENCE

CORRECT

INCORRECT

FOR MORE INFORMATION CONTACT ENVIRONMENTAL HEALTH AND SAFETY AT (806) 742-3876
WWW.EHS.TTU.EDU | WWW.SAFETY.TTU.EDU

SAFETY@TTU
Emergency Preparedness

Our Disaster Recovery Plan Goes Something Like This...

DILBERT
By Scott Adams

When you don't know what to do, walk fast and look worried.
Safety Services

http://safetyservices.ucdavis.edu/

Campus emergency notification system

Aggie Guardian - personal safety mobile app
Emergency Action Plan (EAP)

The program must be in writing and include the following elements:

• Emergency escape procedures and emergency escape route assignments
• Procedures to account for all employees after an emergency evacuation
• The preferred means of reporting fires and other emergencies
• Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan
• A system to notify employees of an emergency
• Training for all employees on the EAP
• The written plan must be kept in the workplace and made available for employee review
• Procedures for employees who remain to complete critical operations before they evacuate
• Rescue and medical duties for those employees who are to perform them
Emergency Action Plan
Know the locations of:

- All exits for your workplace and the building
- Alarm pull boxes and fire extinguishers
- Nearest phone
- Safety showers and eyewashes
- First-aid kits
- Chemical spill kits
Evacuation Plan - RMI South - 2nd Floor

- Fire Extinguisher
- Fire Alarm Box
- Exit
- You Are Here
- Exit Hall
- Exit Stairs

Fire Alarm:
- Sound: Horns
- Visual: Strobe
Emergency Contacts:
Lucy Joseph 752-1809
Jennifer Radke 752-1947
Linda Harris
David Block
Procedures in Case of Fire

• If fire is small you may attempt to neutralize the threat without endangering yourself
• If you are unsure - Leave the area, being sure others are out
• CLOSE THE DOOR!
• ACTIVATE THE NEAREST BUILDING FIRE ALARM
• DIAL 911 (or 752-1230)
• STAY AWAY FROM AREA AND CLOSE THE DOOR!
• Go to agreed meeting place
• Stand by to advise the emergency personnel when they arrive
Procedures in Case of Earthquake

- Get under a desk, table, archway, etc. during the shaking
- Leave the building after the shaking is over
- If outside during shaking, stay clear of buildings, trees, etc.
- DIAL 911 (or 752-1230) to report any fires, ruptured pipes or downed electric lines
- Assist injured persons in securing medical attention
- Go to agreed meeting place
- Stand by to advise emergency personnel when they arrive
CHEMICAL SPILL
Safety Shower and Eyewash Procedure

• If someone is contaminated with hazardous chemical
• Remove contaminated clothing if possible
• Rinse in emergency shower 15 minutes
• If eyes are involved, rinse eyes in the eye wash for 15 minutes holding eye(s) open
• Call 911 or 752-1230 or go to the hospital emergency room
Chemical Incident Response - Decision Logic

Key Information

- Container label is legible
- MSDS available
- No injuries
- Low reactivity
- Low flammability
- Familiar quantity
- No fire
- Low volatility
- Not a strong oxidizer
- I feel comfortable enough, to deal with this situation.
- I am trained in proper protective equipment use.
- I am trained how to use spill control equipment.
- All the right equipment is available to me here and now.

Ask yourself

- Do I know what this substance is?
- Is this release small enough to manage myself?
- Can this chemical be contained or isolated safely?

Get Help!
This is not a “Simple” Spill
Follow your campus emergency response procedures. This could involve:
- Pull Alarm
- Evacuate
- Call 911
- Call your campus Environmental, Safety, or Facilities Management department

This is a “Simple” spill
I can clean it up myself, within my normal workday.
Reporting Unsafe Conditions

• There is a form in the IIPP for reporting unsafe conditions
• You can also turn in work orders to Facilities for building issues that are unsafe. For example; loose tiles, poor lighting, leaks, etc.
• You can also report things you consider unsafe to your supervisor or department safety coordinator
• You can report unsafe conditions or a near miss to Safety Services
• You can also report unsafe conditions to Cal-OSHA
What is a “Near Miss”

DISASTER AVERTED

An Air Canada Airbus 320 was cleared to land on Runway 28R at 11:56 p.m. Friday.

The pilot lined up for Taxiway C where there were four aircraft waiting for departure.

San Francisco International Airport

S.F. Bay

Direction of approach

Air traffic control sent the Air Canada jet around. The plane made another approach and landed without incident.

Map area

San Jose

Source: Federal Aviation Administration

BAY AREA NEWS GROUP
University of Hawaii explosion was preceded by a small scale incident
Report a “Near Miss” to Safety Services

• **Report an Incident or Concern**

  • All faculty members, staff, students and visitors at UC Davis can participate in making the campus a safe place to work, study, and live by identifying health and/or safety hazards or unsafe conditions by informing those responsible for the problem area.

  • **Employees are advised that use of this form or other reports of unsafe conditions or practices are protected by law. It would be illegal for the employer to take any action against an employee in reprisal for exercising rights to participate in communications involving safety.**
Ergonomics

“We could try a larger monitor with an ergonomic glare filter...but you’re still going to get headaches if you keep banging your head against the screen.”
Ergonomics

• Ergonomics –(er-ge-na-miks)–n. Greek term for “the laws of work.”

• The science of adapting workstations, tools, equipment and job techniques to be compatible with human anatomy and physiology to reduce the risk of **Musculoskeletal Disorder** injuries due to **Ergonomic Stressors**.

• In other words, “fit the job to the person” rather than the “person to the job.”
Ergonomic Equipment

• Workstation
• Chair
• Pointing Device
• Keyboard
Ergonomic Equipment
Ergonomics - sitting

WHAT IS GOOD POSTURE?

- Head upright and over your shoulders
- Eyes looking slight downward without bending from the neck
- Wrist in a neutral (straight) posture
- Backrest should support the natural curve of the lower back
- Elbows bent at 90°, forearms horizontal
- Shoulders should be relaxed, not raised
- Thighs horizontal with a 90°-110° angle at the hip
- Feet supported and flat on the floor
  If this isn’t possible, then feet should be fully supported by a foot rest

Table height ≈ Elbow height
Ergonomic – stretches

1. 10-20 seconds, two times
2. 8-10 seconds, each side
3. 15-20 seconds
4. 3-5 seconds, three times
5. 10-12 seconds, each arm
6. 10 seconds
7. 10 seconds
8. 8-10 seconds, each side
9. 8-10 seconds, each side
10. 10-15 seconds, two times
11. Shake out hands, 8-10 seconds
When a teacher wants to know if there are any questions, she doesn't mean any question. She wants to be asked about the thing she's teaching. So if she's teaching you about Mexico, don't ask if "Bubbles" is a good name for a hamster.