



The University of British Columbia

Department of Civil Engineering

Addresses:

CEME 6250 Applied Science Lane

Rusty Hut 2275 East Mall

EERF 2235 East Mall

MacMillan Building 2357 Main Mall

Pilot Plant 3650 Wesbrook Mall

Safety & Environmental Manual & Resource Guide

for attendees of the

GENERAL Safety & Environment Course

11 September 2009, 8:30 am-12:30 pm

Room 2020 Kaiser Building

Please keep this Guide as a resource guide

Name: _____

University of British Columbia
Department of Civil Engineering
SAFETY & ENVIRONMENT COURSE SCHEDULE

General Safety: Friday, 11 September 2009
Time: 8:30 am - ~12:30 pm Place: Kaiser2020/30

TIME	TOPIC
8:30 am	Safety & Environment in Civil. Responsibilities; role of committee; Department resources. (Civil)
~9:00 am	The individual as a hazard – SafeStart concepts (Craig Smith, HSE)
~9:45 am	Coffee break (Coffee/juice & cookies supplied)
~10:00 am	Emergency Response & Preparedness (Catherine Christensen, HS&E)
~11:00 am	Personal Safety (Steve Bohnen, Campus Security)
~11:30 am	Ergonomics (Jolene Cooper, HSE)
~12:00 am	Closing remarks and quiz completion
~12:30 am	End

Laboratory Safety: Friday 11 September 2009
Time: 1:00 pm - ~5:00 pm Place: Kaiser2020/30

1:00 pm	Opening remarks: Resources/requirements (Civil)
~1:30 pm	WHMIS & Waste Disposal: chemicals, sharps/needles, paint, batteries etc. Hazard controls, PPE, etc. (Noga Levit, HSE)
~2:45 pm	Research activities on and off campus: Field Work (Bernard Laval, Civil)
~3:15 pm	Coffee break (Coffee/juice & cookies supplied)
~3:30 pm	Electrical Safety - dangers associated with the use of electricity; short film (Scott Jackson, Civil)
~4:10 pm	Closing remarks and quiz completion
~4:30 pm	Visit to workshop (Harald Schrempp, Civil)
~5:00 pm	End

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Safety and Environment Policy

Approved: January, 1995; Revisions Approved: 28 January 1997
Draft Revisions: May 2009

Purpose

To achieve the objective, described in UBC Safety Policy #7, of providing a safe, healthy and secure environment for all members of faculty and staff, students and visitors; to ensure compliance with UBC Environmental Protection Policy #6, to protect the environment and comply with environmental legislation.

POLICY

All students and members of faculty and staff are encouraged to strive to exceed the minimum regulatory standards described in all relevant policies, regulations and legislation, to eliminate unnecessary risks and to exert due diligence in their activities.

Program Summary

In order to achieve these goals and objectives the Department:

- designates a Safety Program Administrator who is responsible for the management of health and safety activities within the department;
- designates Faculty Area Representatives, Area Supervisors or Area Managers who will oversee safety in laboratories and shop areas, as indicated in the Tree of Department Safety Responsibilities;
- has established and supports the Safety and Environmental Committee, comprised of management, staff and graduate student representatives, to monitor the safety programs within the department and make recommendations to ensure that the objectives can be achieved;
- provides first-aid resources in addition to the University First-Aid response: has some staff trained in Level First-Aid and maintains First-Aid kits in all labs;
- provides a safe working environment by maintaining all equipment and work spaces in safe condition, by taking all reasonable care to protect the well-being of all personnel and by conducting regular safety and environmental inspections;
- provides safety orientations to all new faculty, staff and students; requires and provides training in the safe operation of equipment and instruction on procedures prior to authorizing unsupervised equipment use and activities; maintains written, area-specific procedures and training records;
- requires the development and implementation of a written procedure for checking the well-being of personnel who will work alone or in isolation when conditions warrant;
- supports supervisory staff and safety personnel in the implementation and enforcement of all aspects of the safety and environment program; supports employees in their health and safety activities such as serving on committees and taking applicable courses.

Responsibilities

Faculty and staff supervisors and managers must:

- have knowledge of health and safety regulations and environmental legislation pertaining to their areas of research and their activities; communicate this knowledge to those under their supervision;
- perform hazard/risk assessments, formulate site specific rules, safe work procedures for all locations and activities within their area of supervision; ensure that site rules are posted on laboratory doors;
- ensure that those under their supervision are adequately trained to operate tools and equipment, handle hazardous materials or undertake hazardous activities;
- ensure that equipment and materials in their areas of responsibility are properly stored and maintained;
- develop and implement a working alone or in isolation procedure when conditions warrant;
- perform regular workplace inspections; investigate all reported incidents, accidents or near misses;
- ensure that persons under their supervision wear personal protective equipment (ppe)
- stop and correct unsafe acts and conditions when noticed

Individual students, faculty and staff must:

- know and follow safety and environment requirements
- be safety-conscious in all activities: work, study or recreation;

- correct promptly unsafe work practices or hazardous conditions if able to or report occurrences immediately to a supervisor or to the administration;
- report any accident, injury, insecure condition or threats to personal security to a supervisor or to the administration;
- use ppe when required; maintain ppe in clean working condition;
- refuse to do work if there is reasonable cause to believe that a work process would create an undue hazard to the health and safety of yourself or any person;
- participate, if elected or appointed, on departmental or building safety committees.

Procedures

- At the start of their employment, Faculty, staff and graduate students are required to attend the Departmental General Safety Course and, when applicable, the Departmental Laboratory Safety Course, and receive location/site-specific safety orientation.
- Faculty and Staff Supervisors and Managers must assess training needs of staff and students and arrange for site-specific/equipment-specific training by a qualified trainer, when required. Additional training may include, but is not limited to: Chemical Laboratory Safety, WHMIS, Laser Safety, Radiation Safety, First Aid, Fall Protection, Forklift Operator Certification, Crane Operator Certification, use of hand tools, machine shop equipment, wood shop equipment, testing equipment, etc. Training logs and records are kept.
- Use of specific areas must comply with rules listed for that area including the mandatory use of specified personal protective equipment.
- Use of Workplace Hazardous Materials Information System-regulated products (compressed gases and most chemicals) must be preceded by obtaining, reading and understanding the Material Safety Data Sheet. WHMIS training and advice is available upon request from the Chemical Supervisory Technician.
- Researchers must perform a hazard assessment of planned activities (including field research) and prepare a Safety Plan listing methods of minimizing risk.
- Researchers must prepare an Environmental Plan listing all controlled or regulated material and provide information related to storage, spill clean-up and disposal.
- Field research should follow recommendations set out in the Field Research Guide in addition to the general safety policy requirements.
- Disposal of waste must comply with municipal, provincial and federal regulations. Principles of Reduce, Reuse, Recycle and Substitute are encouraged. Generators of regulated or landfill prohibited waste must prepare an Environmental Plan listing waste products and disposal methods/requirements.
- Research set-ups that may be running and left unattended shall have a "Research in Progress" sign affixed detailing contact information and shut-down procedures where applicable.
- Persons working alone or in isolation require a written procedure describing a system for monitoring and summoning assistance.
- Fire alarms must be treated as real emergencies and building evacuation must occur.
- Those engaged in extra-curricular activities, such as Civil Engineering Club projects, must comply with this policy.

Site Specific Rules

Users of the following locations must receive a site orientation and comply with the *Site Specific Safety Rules* (posted at the lab entrance). Use of certain labs and equipment may be subject to scheduling and require work/project forms to be completed after training is received.

Design Studio	CEME Room 1005
Earthquake Lab	EERF
Env. & Geo. Env. Engineering Labs	CEME Rooms 1301, 1304 & 1306 MacMillan Rooms 80, 90 & 94
Geotechnical Engineering, In-Situ	CEME Room 1010
Geotechnical, UG Soils Lab	CEME Rooms 1006 & 1008
Geotechnical Graduate Lab	RH Rm 130
Hydraulics Lab	RH Rm 138-139
Materials Lab	CEME Room 1012
Structures Lab	RH Rm 100
Workshops	RH Rm 140-146

List of Authorities:

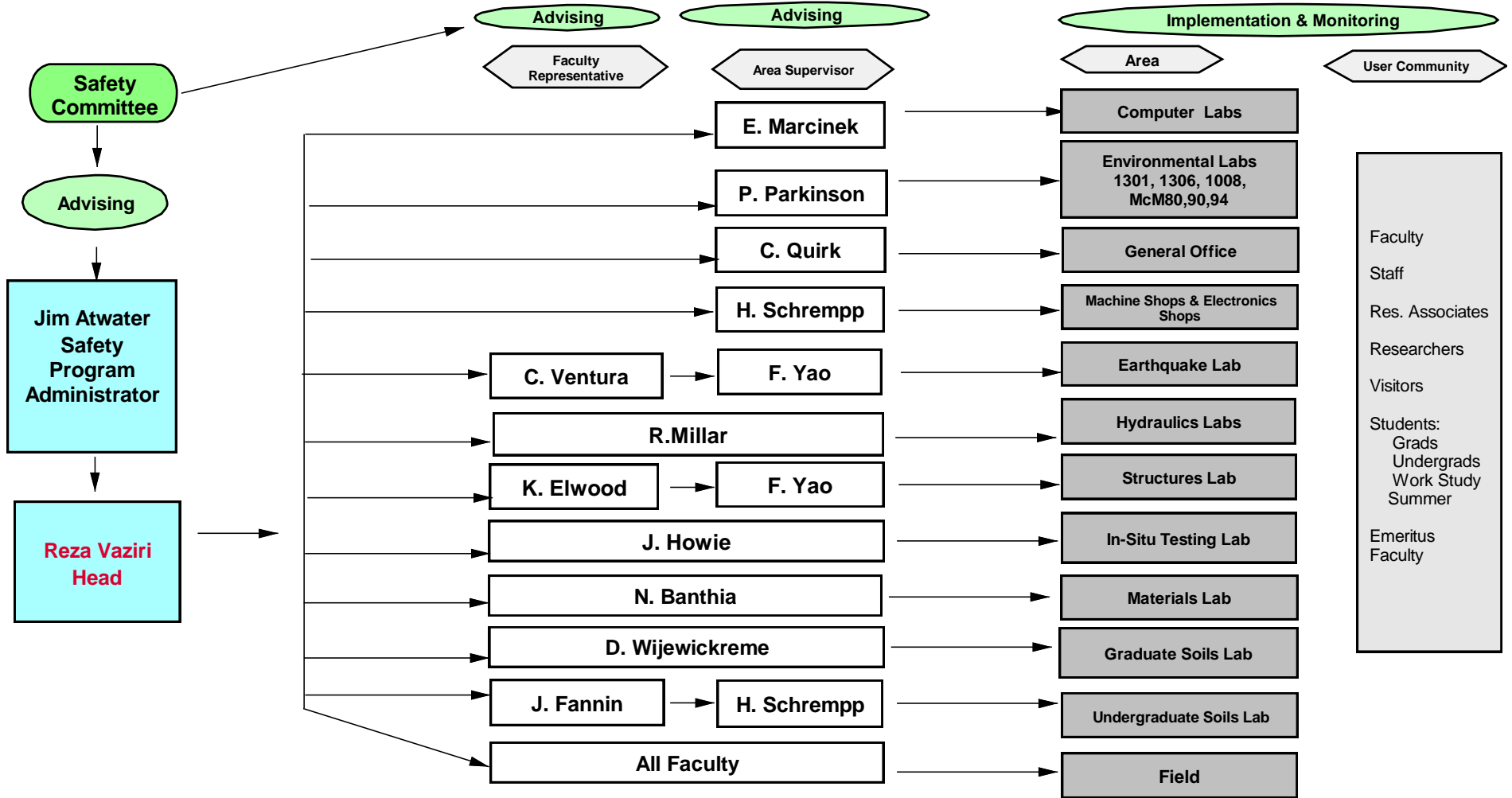
UBC Policy #7, University Safety	http://www.universitycounsel.ubc.ca/policies/policy7.pdf
UBC Policy#6, Environmental Protection Compliance	http://www.universitycounsel.ubc.ca/policies/policy6.pdf
UBC Policy #9, Hazardous Materials Management	http://www.universitycounsel.ubc.ca/policies/policy9.pdf
Safety Committee Terms of Reference	http://www.hse.ubc.ca/hsc/lsc/file/LocalSafetyCommitteeTermsofReference.pdf
Orientation of UBC Faculty and Staff	http://www.hse.ubc.ca/quickfind/publications/faculty_safety_orientation2.htm
WorksafeBC; OHS Regulation	http://www2.worksafebc.com/publications/OHSRegulation/Home.asp
Working Alone or in Isolation	http://www.hse.ubc.ca/quickfind/publications/pdf_files/WorkingAloneTemplate.pdf
WorkSafeBC: Part 3: Rights and Responsibilities: including New or Young Worker Training	http://www2.worksafebc.com/Publications/OHSRegulation/Part3.asp
UBC Emergency Preparedness Guidelines	http://www.hse.ubc.ca/mgmt_systems/management/files/04_Emergency_Preparedness.pdf
WHMIS	http://www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index-eng.php
Environmental Accountability Framework	http://www.hse.ubc.ca/mgmt_systems/management/files/17_Accountability_Framework_2004.pdf
Environmental Legislation Handbook	http://www.hse.ubc.ca/quickfind/publications/pdf_files/Environmental_legislation_handbook.pdf
Sewer-use Bylaw	http://www.metrovancouver.org/boards/bylaws/Bylaws/GVSDD_Bylaw_299.pdf
Landfill: Banned materials	http://www.metrovancouver.org/services/solidwaste/disposal/Pages/bannedmaterials.aspx
Field Research Guidelines	From Department Safety Resource Center (open area)

Please note that many **safety** & **environment** related documents and forms are available at:

<http://www.civil.ubc.ca/home/safety/info/> or

<http://www.civil.ubc.ca/safety/index.php>

Tree of Safety Responsibilities



Worker Orientation

1. ***Rights and responsibilities: UBC Policy #7 Safety and Civil Engineering Safety Policy***
 - the roles and responsibilities of supervisors and workers, the requirements to observe all rules, be safety conscious, report accidents and hazards to their supervisor and support the safety committee
 - the right and duty to refuse unsafe work and the work refusal process.
 - the right to know the hazards of the work, and to participate in safety activities through the safety committee.
2. ***Workplace Safety Rules*** – Site Specific Rules are posted on all laboratories
3. ***Job hazards, including chemical hazards under WHMIS*** – with #2, part of your on-site orientation given by your supervisor or designate.
4. ***Rules for working alone:*** Restrictions are placed on the use of some laboratories or workshop equipment after hours unless specific arrangements are made to have more than one person present and available to assist during any untoward instances. Where necessary there are procedures for monitoring and summoning assistance when working alone or in isolation. The procedures include a system for checking on the well being of the worker and establishing the time intervals for checking on an isolated worker. HSE Guidance document:
http://www.hse.ubc.ca/_shared/assets/workingalone5316.pdf Talk about this with your supervisor.
5. ***Procedures to avoid violence in the workplace*** – Campus Security presentation and:
<http://www2.worksafebc.com/Publications/OHSRegulation/Part4.asp#SectionNumber:4.27>
<http://www.universitycounsel.ubc.ca/policies/policy14.pdf> - Threatening behaviour
http://educ.ubc.ca/service_support/safety/Workplace_Violence2001.pdf
6. ***Personal Protective Equipment rules*** – PPE must be worn as required to prevent injury from identified hazards; with #2 part of your on-site orientation by your supervisor. Some laboratories have mandatory requirements for safety footwear, head, eye, ear and hand protection.
7. ***First Aid Services, Reporting injuries or illness*** – the Department endeavours to provide certified attendants in key locations. Illness or injury must be reported to your supervisor as soon as possible, preferably before leaving the worksite. Recording all injuries, no matter how minor, in the treatment record book, located at each first aid kit, provides documentation and protection for you if unexpected complications should arise.
8. ***Emergency Procedures*** – HSE presentation; know ahead of time what to do, how to evacuate the building using at least two routes. Consider having an Earthquake or Emergency Preparedness Kit at your desk. Know the location of the nearest fire alarms, extinguishers, safety showers and eyewashes, exit routes, assembly points, and civic addresses. Part of personal orientation by your supervisor and your own duty to assemble information for your own safety at your specific work location.
9. ***Instructing the workers in their tasks*** – with # 2, 3 and part of your personal orientation by your supervisor.
10. ***The department's health and safety program*** –the departmental safety policy, safety training requirements, inspectional programs, accident investigations, the role of the safety committee, and the management systems in place to ensure a safe work place. Information contained in this manual or upon request.

Civil Engineering Safety Program

The tree of safety responsibilities provides names of people to contact if you have safety or environmental concerns. The Safety Policy is included in this manual and other information is available upon request from your supervisor or a committee member.

Department or Local Safety Committee Role

The committee is mandated by the University to: *“Carry out the Health and Safety programs within their areas and make recommendations to ensure that the Health and Safety objectives of the University can be achieved.”*

The committee is comprised of University appointments, nominated and elected staff and graduate students. The department endeavors to have representation on the committee from all areas, both staff and student.

In order to monitor Health and Safety Programs each committee will:

1. Participate in regular work site inspections and report any hazardous conditions found;
2. Review written Health and Safety instructions and make recommendations for their improvement, particularly when new equipment or processes are introduced;
3. Participate in Incident/Accident Investigations;
4. Review, and make recommendations concerning all reported accidents or incidents which may have occurred in their unit;
5. Ensure that accidents have been investigated and reported to the Health, Safety and Environment office;
6. Staff representatives should accompany WorkSafeBC officers on inspection tours as required by the regulations.

The Civil Safety Committee meets on the first Thursday of every month at 10:30 am in room 2010. If you have issues you wish discussed please submit in writing to the secretary or chair for inclusion on the monthly agenda.

Departmental **Safety & Environment** Committee Members

October 2008 - September 2009

Paula Parkinson, 604-822-4833, Rm 1301 Chair
parkin@civil.ubc.ca

Blair Patterson, 604-822-4414 RH Rm 146
bpatterson@civil.ubc.ca

Felix Yao, 604-822-6203 RH Rm 127
yao@civil.ubc.ca

Brandon Laviolette, 604-822-2065, CEME Open Area, Secretary
adminsec@civil.ubc.ca

Harald Schrempp, 604-822-4851 RH Rm 141
haralds@civil.ubc.ca

Bernard Laval, 604-822-2204, Rm 2036
blaval@civil.ubc.ca

Aidin Zadeh, 604-822-5853 Rm 1012D
aidin_joon@hotmail.com

Manuel Archila, 604-822-6944 CEME Rm 1201
meme.archila@gmail.com

Chad Novotny, 604-827-5368 CEME Annex Rm 34
cnovotny@interchange.ubc.ca

Harald Schrempp, Fire Safety Director for Rusty Hut 604-822-4851 Rm 141
haralds@civil.ubc.ca

Clare Quirk, Fire Safety Director for CEME, 604-822-5922 Rm 2002C
cquirk@civil.ubc.ca

Department Safety Program Administrator
Jim Atwater, jatwater@interchange.ubc.ca 604-822-4694, Rm 2004C

Department Environmental Advisory Committee
Jim Atwater, jatwater@interchange.ubc.ca 604-822-4694, Rm 2004C
Paula Parkinson, parkin@civil.ubc.ca 604-822-4833, Rm 1301 Co-Chair

All safety and environmental concerns should be brought to the attention of a supervisor, lab manager or a safety committee member immediately



Dept. of Civil Engineering

First Aid 2009

WCB Level 1 Certified Attendants

Name: Brandon Laviolette

Phone: (604) 822-2065

Location: CEME 2038 (2nd floor, open office near copy room)



Name: Bernard Laval

Phone: (604) 822-2204

Location: CEME 2036

If the above are not available and you need **First Aid:**

Staff : Call 604-822-4444 (24 hr. Campus Mobile First Aid)

Students: Call 911

In case of dire EMERGENCY: call 9-1-1

Report all injuries to your supervisor. Use treatment record book to record injuries no matter how small.

Office Ergonomics Representative

-promotes early intervention which reduces risk of musculoskeletal injury; provides information for setting up work stations



Leiz Gagnon, Rm 2002, 604-822-1212

Important Contact Numbers

EMERGENCY (Ambulance, Fire, Police, Spills)			DIAL 911
FIRST AID (Students-if local first aid attendant is not available & help is required)			911 (Staff 2-4444)
HAZARDOUS MATERIALS RESPONSE			DIAL 911
R.C.M.POLICE (Non-emergency)			604-822-1322
CAMPUS SECURITY			604-822-8609
Personal Security Coordinator - Paul Wong			604-822-6210
STUDENT HEALTH SERVICES (Mon, Tues, Wed, Fri – 8 am-4 pm Thurs 9 am-4 pm)			604-822-7011
Poison Control Centre			604-682-5050
UBC Hospital Urgent Care Dep't			604-822-7222
Department Local Safety Committee			see separate list
Department Fire Safety Directors		CEME	Clare Quirk
		Rusty Hut	Harald Schrempp
Volunteer Area First Aid Attendants (currently certified*)			see separate list
Dept. of HEALTH, SAFETY & ENVIRONMENT			604-822-2029
Occupational & Research Safety – Bruce Anderson			604-822-7596
Environmental Services Facility - Valeriy Kichenko			604-822-6306
Environmental Programs – Noga Levit			604-822-9280
Safety & Emergency Planning Associate – Calvin Cheung			604-822-1237
Occupational and Research Safety - Craig Smith,			604-822-5909
Radiation Protection - Ted Sedgwick			604-822-2643
Ergonomics Coordinator – Jolene Cooper			604-822-9040
Diving Safety Officer – Sherri Ferguson			604-822-0864
WorkSafeBC Claims - Dolly Hsiao			604-822-8759
TROUBLE (UBC PLANT OPERATIONS)			604-822-2173
or email: tc.plantops.ubc.ca			tc.plantops.ubc.ca
STUDENT HEALTH SERVICES			604-822-7011
YOUR SUPERVISOR (WORK):			(HOME):

See also the red brochure “Emergency Procedures & Information” – which should be at every telephone

Training Requirements

- General Safety course is mandatory for all new graduate students and prescribed as a safety orientation for all Faculty and Staff.
- The Laboratory Safety course is additionally mandatory for students, faculty and staff who intend to use any of the Department laboratories.
- Supervisors will identify additional training needs and make arrangements for training to be obtained. Adequacy of training must be monitored and retraining needs identified where indicated.
- Site specific rules apply to all laboratories. Specific Lab orientations by qualified personnel are required before use of labs is authorized. Use of hazardous materials covered under WHMIS legislation is prohibited without knowledge of WHMIS and reading and understanding associated Material Safety Data Sheets. (MSDS)
- Training is required before use of all machinery and equipment. Make arrangements for training with qualified training personnel. Equipment training logs are kept.
- Preparation of a Safety Plan and an Environmental Plan are required for all research projects involving hazards and producing waste material.
- Register for the following courses at www.hse.ubc.ca if need is identified during your orientation:
 - Laboratory Chemical Safety – includes WHMIS & TDG*
 - First Aid Level 1
 - Laser Safety
 - Radionuclide Safety
 - Hazardous Waste Management
 - Diving Safety
- Alternate training by outside agencies and by arrangement through the department are required for:
 - Fall Protection/Arrest Training
 - Fork Lift Operator
 - Crane operation: fixed or mobile
 - Small boat operator certification

Accident Reporting and investigation

Incident and accidents are reported and investigated in order to prevent similar situations from recurring. Investigations should never seek to assign blame.

To meet WorkSafeBC and University requirements, UBC Departments must report and investigate any incident or accident that resulted in:

- * a death or critical condition with a serious risk of death
- * a work related injury requiring treatment by a medical practitioner
- * a time loss injury
- * an occupational disease or allegations of an occupational disease
- * a major structural failure or collapse
- * major release of a toxic or hazardous substance; or
- * a near miss (did not result in an injury but had the potential for causing serious injury)

Forms are available at:

<http://www.hse.ubc.ca/healthpromotion/wcb/studentsvisitors.html> For students and visitors: includes all non-UBC employees present or working on University premises. These include undergraduate students, graduate students (except when employed as teaching or research assistants), visitors and members of the general public.

http://www.hse.ubc.ca/_shared/assets/UBC_Incident_Accident_Form_faculty_and_staff5334.doc for faculty and staff

WCB Claim Reporting

Any event involving injury to a person or damage to property, or with the potential to do so, must be reported to the Department of Health, Safety and Environment within 24 hours of occurrence.

For details and procedures, please visit:

<http://www.hse.ubc.ca/healthpromotion/wcb/claimreporting.html>

There are three types of at-risk behaviour:

- conscious behaviour (deliberate)
- habitual behaviour (automatic)
- unintentional behaviour (error)

SafeStart is about unintentional behaviour and habitual behaviour.

These four states

- Rushing
- Frustration
- Fatigue
- Complacency

Can cause or contribute to these critical errors

- Eyes not on Task
- Mind not on Task
- Line-of-Fire
- Balance/Traction/Grip

...which increase the risk of injury.

Rushing: When you exceed the pace at which you normally perform the task, whether it's working, driving, walking or running, lifting or moving.....

Frustration: Caused by relationships inside and outside of the workplace, malfunctioning equipment, inadequate tools, conflicting objectives and pressures, etc.

Fatigue: Too tired to do the job safely, either physically or mentally. Includes being too tired to react quickly, prolonged concentration is difficult, etc.

Complacency: Familiar enough with the hazards to become considerably less concerned over time. Contributes significantly to not watching or thinking about what you are doing.

Eyes not on Task: Not looking where you are going or what is coming at you. Includes not moving eyes before moving your body or not being able to see where you are stepping, where your hands are reaching into, etc.

Mind not on Task: Not Concentrating on the job. Being unaware of dangers or deficiencies. Forgetting things, making more errors than normal, going on "auto-pilot", "drifting away", etc.

Line-of-Fire: Being conscious of where you are or where you are going in relation to the direction of hazardous energy. Includes protection barriers and PPE if line of fire cannot be predicted accurately.

Balance/Traction/Grip: Doing something that could cause you to lose your balance, traction, or grip. Could include not wearing good footwear/gloves, not having a good grip in the first place, or not seeing or thinking about the hazard.

Emergency Response

Possible emergencies

- Fire, explosion
- Haz Mat spill
- Gas leak
- Flood
- Trauma
- cuts from glass, metal or wood;
- burns from hot water/steam, chemicals, welding, soldering or electrical shock
- Crushing/pinching
- Inhalation injuries- dusts fumes
- Medical (including cardiac problems, diabetic reactions)
- Earthquakes
- H1N1

Preparedness

- Know where the fire alarms are located
- Note the emergency exits
- Learn the location of fire extinguishers
- Keep exit paths free of tripping hazards

If you hear an alarm

- Leave by the nearest safe exit.
- Do not use the elevator.
- Walk, do not run. Shut doors behind you. On leaving the building, move well away from it immediately. Go to the designated assembly area: between CEME and the Rusty Hut. Obey Floor Warden's instructions.
- Do not re-enter the building until fire department and the Emergency Director have given permission to do so.

Reporting fires

- If safe to do so and you know how to, put out with extinguisher
- If not, pull fire alarm
- Evacuate building, go to meeting site –nearest exit
- Call 911 and give further information as required

Information you will be asked for:

- Your name and your Phone Number
- Building address: 6250 Applied Science Lane or 2275 East Mall for Rusty Hut
- Building name: CEME or CEME Rusty Hut
- Department name: Civil Engineering
- Location of emergency (Floor, Room #)
- Building entrance where you will meet the Emergency Responders
- Number of persons injured and/or contaminated

Other information you may be asked for:

- Correct names of hazardous materials involved (i.e. chemicals, radioisotopes, biohazards)
- Quantity of materials released
- Degree of hazard – properties of material, potential threat to human life, density of surrounding population, evacuation problems
- What actions you have initiated at time of calling
- For outdoor accidents, report environmental conditions (weather, wind, terrain, water sources disposal systems)

In the event of an earthquake (Info from H.S.&E web site)

- Remain calm – reassure others.
- If indoors, stay there! If outside – stay there!
- Move away from large windows and objects that may fall.
- Take cover, and protect the head, face, and torso.
- Hold on to furniture.

After the shaking stops –

- Assess your immediate surroundings for dangers. Evacuate if necessary.
- Check for injuries. Administer first aid to the most seriously injured.
- Check building for structural damage. Evacuate if necessary.
- Check utilities (e.g. gas, power). Shut off if necessary.
- NEVER TOUCH DOWNED POWER LINES.
- ONLY SHUT OFF GAS IF YOU SMELL IT OR SUSPECT A LEAK
- Send a runner to the next closest unit to exchange information.
- Be alert for fire hazards. Put out small fires, if it is safe to do so!
- Do not light a match or turn on a light switch. Use a flashlight!
- Clean up hazardous materials and debris, if it is safe to do so.
- Wear sturdy shoes and protective gloves where there is debris.
- Put all telephone receivers back on hooks.
- Do not use telephone unless absolutely necessary.
- Turn on battery operated radio (or car radio) for emergency bulletins.

Assist others -

- Ensure all building occupants are accounted for. Take a head count.
- Initiate rescue efforts if necessary and safe (e.g. for trapped persons). Do not enter severely damaged buildings. In that case, leave rescue to trained professionals!
- Move injured people from hazardous areas into unaffected areas.
- Set up emergency care (e.g. shelter, feeding, first aid). Calm people.
- Ensure people take routine medication. In an emergency it's easy to forget!
- Check water supplies. Draw a moderate amount of cold water and store in emergency containers.
- Gather emergency supplies and tools.
- Check to see if sewage lines are intact before flushing toilets.

Stay safe -

- Stay out of danger areas. Your safety (and life) comes first!
- Respond to instructions of emergency personnel.
- Be prepared for additional earthquake aftershocks.
- Open doors carefully and watch for falling objects!

Communicate –

- Notify your out-of-town contact that you are OK.
- Work together in teams to carry out emergency response efforts.
- Register at closest operational Reception Centre.

What you can do to prepare

- Develop personal emergency kits
- Be personally prepared for 72 hours
- Have kits for work, home and car
- Establish out of area contacts for your family in case of a disaster
- Develop a plan with your family – what everyone's responsibilities are during and after an earthquake
- Communicate expectations or priorities (work/home) in case of an emergency
- Collect supplies and assemble emergency kits for your office/work and home

H1N1

For information on the University response to this threat visit:

<http://www.hse.ubc.ca/healthpromotion/communityhealth/flu/h1n1.html>

Personal Security

AMS Safewalk

Why walk alone when you can call Safewalk? Safety on campus is an important issue; that's why there's Safewalk. Safewalk is a foot patrol service that will accompany anyone between points on campus - free of charge! Look for our bright jackets and signs around campus and let your next walk be with us. Safewalk is a non-intervention service. For a walk, please call 604.822.5355, stop by our office on the SUB main concourse, or use one of our Direct Line Phones at locations around campus. Or, ask one of our teams walking on campus - they'd be happy to accompany you!

Campus Blue Phones

Not Just For Emergencies

Safety Concerns

General Assistance

Information

Directions: Push the button once and you will be directly connected to Campus Security



Community Shuttle provided by Translink and Coast Mountain Bus Company
http://www.trek.ubc.ca/programs/community_shuttle/



In addition to C20 and C22, C19 route begins service September '08: The C19 Alma/UBC will travel from Broadway and Alma to UBC via NW Marine Drive. Like the 2 existing shuttle routes, C19 will terminate at Bay 15, located at the north side of the Student Recreation Centre adjacent to the diesel bus loop.



UBC EXPRESS Incident Reporting

To notify UBC Campus Security of a non-emergency incident on-line visit:
<https://d3.security.ubc.ca/D3SOC.UBC/ealert/default.aspx?lang=1>

Your information will be immediately delivered to the Campus Security Operations Center where it will be reviewed. Note: Please allow a 24 hour turnaround time for Express Incident Reports.

Incident types may include:

- Stolen Property
- Suspicious Activity
- Lost and Found
- Property Registry

Please be sure to include as many details as you can to the narrative section. You may also include any questions that you have.

If there is an emergency situation, please call UBC Campus Security direct at (604)822-2222 for immediate assistance.

Ergonomics

- is the study of the interaction between people, equipment, and systems in their (work) environment. It includes the physical, psychological and environmental aspects of the interaction. The goal of ergonomics is to find a balance between the capabilities of the human and the demands required by the work environment to prevent musculoskeletal injury (MSI).

The benefits of ergonomics include increased quality and safety, as well as a decrease in MSI. MSI, as defined by WorksafeBC, is an injury or disorder of the muscles, tendons, ligaments, joints, nerves, blood vessels or related soft tissue including a sprain, strain and inflammation, that may be caused or aggravated by work. It is important to report early signs and symptoms to facilitate early intervention and recovery.

MSIs can lead to Musculoskeletal disorders (MSDs) which are disorders of the muscles, nerves, tendons, ligaments, joints, cartilage, and spinal discs. Examples of MSDs include carpal tunnel syndrome, rotator cuff syndrome, de Quervain's disease, trigger finger, tarsal tunnel syndrome, sciatica, epicondylitis, tendinitis, Raynaud's phenomenon, carpet-layers' knee, herniated spinal disc, and low back pain.

It is important to report early signs and symptoms to facilitate early intervention and recovery.

Risk Factors of MSI

The factors that contribute to the risk of MSI are called risk factors. A risk factor is something that medical or scientific research indicates may cause or contribute to an injury. Two or more risk factors can be present at one time, increasing the risk of injury. It is important for workers to recognize situations when they are at higher risk. For example, if a worker must bend awkwardly to lift a heavy object in a cramped area, the worker will be exposed to a greater risk of MSI than one who uses a mechanical lifting device or one who has enough room to follow safe lifting procedures.

The primary risk factors for MSI are the physical demands of a task, including:

Force required (to lift, push, pull, or carry an object or person Grip, pinch, or hold an object, stop a moving object or resist the kickback from tools)

Repetition (using the same body part over and over to frequently perform a task without resting especially when unaccustomed to the task)

Awkward posture (Muscles work harder and ligaments are stressed when awkward postures are maintained: when any joint of your body bends or twists away from the middle range of movement)

Duration (the length of time a person is gripping an object or holding a posture without movement)

Local contact stress (a hard or sharp object comes in contact with a small area of the body and the nerves and the tissues beneath the skin can be injured by the pressure)

Other risk factors that can affect these physical demands include:

Layout and condition of the workplace or workstation (for example, a workstation that is too high or too low can create awkward working postures)

Characteristics of objects handled (for example, an object that is slippery or has no handles may cause awkward postures and require greater force to lift)

Environmental conditions of the workplace (for example, cold temperatures or drafts reduce blood flow to the working hands and arms, promoting muscle fatigue)

Organization of work tasks (for example, a worker performing the same task throughout the day is at a greater risk of injury than a worker performing different tasks)

The mere presence of MSI risk factors may not in itself result in an injury. The development of an MSI is dependent on the physical demands of the task combined with the extent of exposure, frequency, intensity of the activity, and personal attributes of the worker.

Multiple risk factors

More than one risk factor can occur at the same time. The more risk factors in the task, the greater the risk of injury.

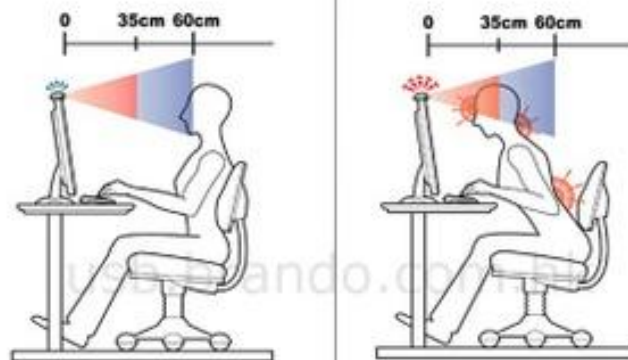
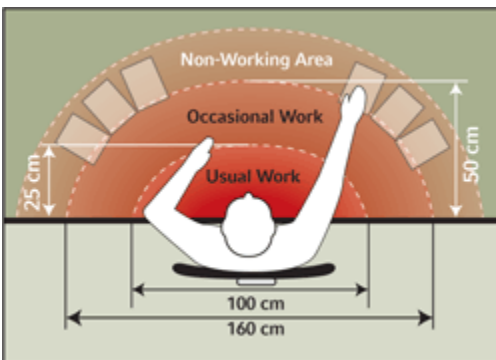
Knowing risk factors, assessing individual situations and activities and taking steps to prevent injury will prolong health and well-being and prevent lost time.

This information and more Ergonomics information and checklists can be found at:

- Department of Health, Safety & Environment, University of BC
http://www.hse.ubc.ca/health_promotion/ergonomics/ergonomics_index.html

More information can be obtained from:

- WorksafeBC
<http://www2.worksafebc.com/Topics/Ergonomics/Home.asp>



Waste Reduction at UBC

“The UBC Waste Management Office's mission is to initiate, coordinate and promote both waste and litter reduction through reuse, recycling and composting activities at the University of British Columbia. We orchestrate campus recycling activities and provide education and information on waste reduction to the campus community.’

Recycling paper, bottles, plastic

‘UBC Waste Management offers recycling programs using blue bins for paper and gray bins for cans, bottles and plastics. There is also an office recycling program, WasteFree, that provides blue deskside recycling bins with small attached garbage receptacles.

Waste Management also recycles special items such as office furniture and equipment, fluorescent tubes, batteries, plastic bags, wood, and metal. We also provide information on how to recycle chemicals.”

Visit: <http://www.recycle.ubc.ca/recycling.htm>

E-Waste

‘E-waste is otherwise known as electronic waste. It includes items such as cell phones, computer towers, monitors, television sets, video cassettes, etc. UBC recycles the following personal e-waste items: computer e-waste, such as monitors, towers, keyboards, scanners, printers, computer mice; projectors; scientific equipment and cell phones.’

UBC Waste Management is now accepting e-waste from 8am to 2pm, Monday to Friday at the back of the University Services Building at the first loading dock on Agronomy Road at Lower Mall in Room 0150.

For more information visit: <http://www.recycle.ubc.ca/ewaste.htm>

Composting

“Compost is organic waste resulting from food or plant sources that are decomposed by worms and/or other organisms. This decomposed organic matter is soil-like, rich in nutrients and minerals, and can be used in gardens as mulch or land cover to prevent moisture loss in soils.”

Organic waste bins (green) are picked up on Thursdays from Kaiser Building - Dean of Applied Science – located in the west end of Applied Science Lane.

For more information visit: <http://www.recycle.ubc.ca/compost.htm>

Name: _____ Supervisor _____ 11 September 2009

Department of Civil Engineering Safety & Environment Course
General Safety Session Questionnaire

Must be handed in before leaving to obtain credit for this session

For each question check the point(s) that apply

1. All employees and students have the following responsibilities for safety while at UBC:
 - to know and follow safety rules and procedures established by the department.
 - to acquire training before commencing any hazardous activity.
 - to use properly and maintain personal protective equipment provided by the Department.
 - to refuse to work in unsafe conditions or situations.
 - to immediately report any injury to a first aid attendant or a supervisor.

2. What would likely cause someone to miss seeing a slipping or tripping hazard:
 - rushing
 - frustration
 - fatigue
 - complacency
 - not thinking to look
 - looking somewhere other than the road or path ahead
 - the hazard is the same colour or texture as the floor

3. If you see a fire and can not put it out yourself you must:
 - sound the alarm.
 - leave by the nearest exit, closing doors as you leave and report to a Floor Warden
 - call 911 and provide as much information as possible including the street address & room #.
 - wait for emergency personnel outside main entrance of the building.

4. In the event of a natural disaster such as an earthquake you might not be able to get home. Help may not arrive for 72 hours or more. What can you do to help yourself:
 - have a personal survival kit with supplies including medications for 72 hours.
 - beforehand, develop a plan of action at work and at home with your family.
 - have a good pair of shoes on hand in case you want to try to walk home.

5. Many security services are available on campus. They include:
 - AMS Safewalk
 - Blue Light Phones
 - AMS Speakeasy
 - Community Shuttle buses
 - Emergency Response Protocols
 - SpeedWatch

6. If you see a suspicious individual or activity on campus:
 - Report to Campus Security 604-822-2222 providing location, description, vehicle, etc.
 - Challenge the individual

7. Protecting the Environment:
 - affects our habitat which ultimately affects our well-being
 - is the responsibility of environmentalists alone
 - helps prevent climate change (reducing, reusing, recycling, substituting =less emissions)
 - is regulated by federal, provincial and municipal governments

8. The practice and implementation of good ergonomic principles:
 - will prevent muscular skeletal injuries from occurring
 - will prolong health and well-being

9. When you are lifting a carton most of the effort should come from:
 - your arms
 - your back
 - your legs
 - your stomach

10. Serving on the Department Safety Committee
 - provides an educational opportunity
 - enhances individual safety awareness
 - performs a valuable and appreciated service to the department
 - looks good on your resumé