



CAPE BRETON UNIVERSITY
OCCUPATIONAL HEALTH & SAFETY (OHS)
MANUAL

October 21, 2008

[Individual OH&S Policies
are listed separately on the CBU Web Page.]

Revisions after 2008 to various sections are noted
on the tracking block at the end of each revised section.

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Occupational Health and Safety Manual

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1 OCCUPATIONAL HEALTH AND SAFETY PROGRAM

1.1 Cape Breton University Health and Safety Policy

Cape Breton University (“University”) is committed to the prevention of illness and injury, the promotion of the health and safety of its employees, and protection of its employees from hazards through the provision and maintenance of healthy and safe conditions on its premises. The University shall endeavour to meet its responsibilities for health and safety by adhering to the principles of the Internal Responsibility System provided for in legislation, to relevant health and safety standards and legislative requirement. The University will assist general and specific responsibilities for workplace health and safety enforcement of safe work procedures.

The University shall initiate appropriate training to acquaint its employees with their rights and duties in the workplace and applicable regulations and procedures for protecting their health and safety. The University shall establish arrangements and programs to assist in maintaining safe conditions and work practices and facilitating employee participation in health and safety activities including health and safety committees.

Everyone shall take responsibility in maintaining a healthy and safe workplace. All employees shall be responsible for the protection of their own health and safety and that of others at or near the workplace. To achieve this it is important that everyone in the workplace comply with prevailing legislation, regulations and standards and with safe work practices and procedures established by the University.

It is a primary duty of all persons in authority, including supervisors and instructors, to ensure that any persons under their direction are made aware of and comply with all applicable policy and safety procedures. They shall be responsible for ensuring that all aspects of the workplace, including teaching and research sites, are safe and that any risks, hazards and safety violations drawn to their attention are investigated and corrected promptly. All employees must therefore report any health hazards and unsafe conditions or practices immediately to supervisory staff.

This policy has been developed in cooperation with the Joint Occupational Health and Safety Committee (“Committee”) as well the various components of the Health and Safety Program.

1.2 **Application**

This program applies to all faculty, staff and students of the University. This program is intended to complement and comply with the *Occupational Health and Safety Act* and regulations of Nova Scotia and, in the event of any conflict, the provisions of the *Occupational Health and Safety Act* and regulations will prevail.

1.3 **Enforcement**

It is the responsibility of each supervisor or department head to ensure that policies and procedures are being implemented in the areas under his/her jurisdiction.

It is our policy that all our activities comply with the highest standards of occupational health and safety. Therefore, any contravention or violations of the Occupational Health and Safety Act or the Occupational Health and Safety Program developed for the University will be cause for corrective action.

Contravention of the occupational health and safety standards will be regarded as very serious breaches of expected performance and may be cause for disciplinary action.

Corrective Action resulting from a violation of occupational health and safety requirements will be progressive and will be appropriate to the nature of the contravention, the seriousness of the offense, previous violations and any extenuating circumstances.

1.4 **Administration**

All faculty, staff and students will comply with the regulations under the *Occupational Health and Safety Act* of Nova Scotia including the Workplace Hazardous Materials Information System (WHMIS).

A copy of the *Occupational Health and Safety Act* of Nova Scotia will be kept in each Department or School for perusal by faculty, staff and students. It is also posted on seven bulletin boards throughout the facility to ensure its accessibility.

Action may be necessary under this Act and Regulations and, following training on the *Occupational Health and Safety Act* of Nova Scotia and Workplace Hazardous Materials Information System, all staff must take whatever action is necessary to comply with the legislation. Any questions or problems should be referred to a supervisor, the Director of Human Resources or the University Safety Officer. Student compliance is also expected and will be held accountable through the student union judiciary process. Students should contact their student union administration for further information. Student representative(s) is/are also present on the Committee so that student issues can be brought forward to the administration.

1.5 Elements of the Program

The Occupational Health and Safety Program of the University shall include:

- a) a provision for the training and supervision of employees in areas that are necessary for their health and safety and the health and safety of other persons at the workplace;
- b) a provision for the preparation of written work procedures that are required to implement safe and healthy work practices and identification of the types of work for which the procedures are required;
- c) a provision for the establishment and continued operation of a committee required pursuant to the *Occupational Health and Safety Act*, including maintenance of records of membership, rules of procedure, access to a level of management with authority to resolve health and safety matters and any information required under the *Occupational Health and Safety Act* or the regulations to be maintained in relation to a committee;
- d) a hazard identification system that includes:
 - evaluation of the workplace to identify potential hazards;
 - procedures and schedules for regular inspections (see inspections under section 3.7)
 - procedures for ensuring the reporting of hazards and the accountability of persons responsible for the correction of hazards; and
 - identification of the circumstances where hazards must be reported to the committee and procedures for doing so;
- e) a system for workplace occupational health and safety monitoring, prompt follow up and control of hazards;
- f) a system for the prompt investigation of hazardous occurrences to determine their causes and the actions that need to be taken to prevent their reoccurrences;
- g) maintenance of records and statistics, including reports of occupational health and safety inspections and investigations, with provisions for making them available to persons entitled to receive them pursuant to the *Occupational Health and Safety Act*; and
- h) a provision for monitoring the implementation and effectiveness of the program.

A copy of the program shall be made available to the committee and, on request, to an employee at the workplace.

1.6 Definitions

Accident - An undesired event that results in physical harm to a person or damage to property. It is usually the result of a contact with a source of energy (kinetic, electrical, chemical, thermal, etc.) above the threshold limit of the body or structure.

Accident Cause - The many factors that act together to cause accidents. These factors could be:

Personal

- lack of proper knowledge or skill
- improper attitude
- physical or mental stress

Organizational

- inadequate work standards/procedures
- improper design
- inadequate maintenance
- inadequate purchasing standards
- normal wear and tear
- improper use of equipment, materials, etc.

Act - The *Occupational Health and Safety Act*.

Aids - Acquired Immunodeficiency Syndrome. Aids is the advanced stage of the disease caused by a virus called HIV.

Committee - A Joint Occupational Health and Safety Committee established within the University pursuant to the *Occupational Health and Safety Act*.

Competent Person - A person who is (a) qualified because of their knowledge, training and experience to organize the work and its performance; (b) familiar with the provisions of the Act and the regulations that apply to the work; and (c) has knowledge of any potential or actual danger to health and safety in the workplace.

Contractor - A person who contracts work to be performed at the premises of the person contracting to have the work performed.

Controlled Product - Any product, material or substance specified by the regulations made pursuant to paragraph 15(1) (a) of the Hazardous Products Act to be included in any of the classes listed in Schedule II of that Act.

Employee - A person who is employed by the University.

Employer - Cape Breton University.

Environment - The surrounding conditions and atmospheric influences to which an employee is exposed in the workplace.

Ergonomics - the interface between the workplace and the worker, and can include workstation design, human factors, equipment, furniture and tools.

First Aid - Emergency care or treatment that is given to an injured person before medical help arrives.

Hazard - The potential that any piece of machinery, equipment, material or the physical environment has for causing harm to people or damage to property or the environment.

Hepatitis B - Hepatitis B is an inflammation of the liver caused by the hepatitis B virus, one of the three most common forms causes of viral hepatitis; the other two being hepatitis A and hepatitis C. Most people who become infected never feel sick and recover completely. Others get a flu-like illness and their skin and eyes may turn yellow (a condition called "jaundice"). About 10% of adults develop a chronic disease that can lead to cirrhosis and cancer of the liver later in life.

Hepatitis C - Hepatitis C is a disease of the liver first identified in 1989. The hepatitis C virus (or HVC for short) is spread by direct blood to blood contact with an infected person. Previously known as "Non-A Non-B hepatitis". The most common means of transmission is injection drug use.

HIV - HIV stands for Human Immunodeficiency Virus. HIV is the virus that causes a disease known as AIDS. The virus attacks and damages the body's immune and nervous systems.

Human Error - This term is used today to include not just workers' errors but engineering deficiencies and lack of adequate organizational controls which together account for the majority of accidents.

Incident - An undesired event (near miss) that can (or does) adversely affect the efficiency of the business operation.

Proper Procedures - A series of logical steps by which action is initiated, performed, controlled and completed.

Protective Equipment - Equipment that is designed to protect a person against injury from dangers in the environment.

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Risk - The probability of a worker suffering an injury or health problem, or of damage occurring to property or the environment as a result of exposure to or contact with a hazard.

Standards - Guidelines set up and established by professional bodies, through legislation or within an organization through the establishment of procedures, rules and regulations.

Supervisor - Immediate supervisor or manager or person in charge at that particular time.

Tolerance - The allowable deviation from a standard.

Toxic Substance - A biological or chemical substance that, because of its inherent properties, can have a harmful effect on workers' health.

WHMIS - WHMIS stands for Workplace Hazardous Materials Information System. WHMIS is a nationwide system used to provide information on hazardous materials that are used in the workplace. WHMIS is applicable where controlled products are stored, handled or used at work.

Workers Working Alone - All workers who are performing a job function and are not in the presence of their employer, another person in a supervisory capacity designated by the same employer, or another worker directly associated with the same employer, at the particular workplace location and during the same time period the working alone job function is being performed.

Workplace - A place where an employee is or is likely to be engaged in any occupation and includes any vehicle or mobile equipment used or likely to be used by an employee in an occupation. It may be any location, either permanent or temporary, where an employee performs any work-related duty. This includes, but is not limited to, the buildings and the surrounding perimeters, including the parking lots, field locations, clients' homes and travelling to and from work assignments.

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

2. RESPONSIBILITIES

Safety is the responsibility of every member of the University community. Specific responsibilities are as follows:

President of the University

- Provide a Statement of Policy with respect to Occupational Health and Safety for the University.
- The Statement shall provide the commitment and philosophy that sets levels of expectations for Occupational Health and Safety throughout the University.
- Responsible to ensure that the Health and Safety Program is developed and implemented throughout the University.

Chairs, Managers and Supervisors

- Provide the necessary resources to ensure that the Occupational Health and Safety Program is developed and implemented throughout the Department.
- Maintain overall control of the University Occupational Health and Safety Program. Ensure that coordinators administer in a fair and consistent manner the Occupational Health and Safety Program.
- Cooperate with the Joint Occupational Health and Safety Committee.
- Provide leadership to ensure that the Nova Scotia Occupational Health and Safety Legislation is met or exceeded throughout the University.

Deans, Directors and Officers

- Implement and maintain the University Occupational Health and Safety Program.
- Cooperate with the Joint Occupational Health and Safety Committee.
- Provide a written response to the Joint Occupational Health and Safety Committee's recommendations.
- Meet with the Joint Occupational Health and Safety Committee with respect to inspection reports when necessary to address safety needs.
- Advise employees on all new developments or regulations under the *Occupational Health and Safety Act*.
- Assure that copies of all legislation and regulations under the legislation are brought to the attention of employees and are posted in the workplace.
- Perform such other functions as required to assist in the administration of the *Occupational Health and Safety Act*.
- Make available to all employees programs and training that will enable staff to comply with the *Occupational Health and Safety Act*.

Professors/Instructors

- Implement and maintain the Safe Work Practices and Work Procedures.
- Ensure hazard assessments are conducted.
- Discuss safety issues at regular department and school meetings.

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- Make observation of health and safety activities on projects.
- Comply with the Nova Scotia Occupational Health and Safety legislation.
- Ensure the safe performance of personnel and equipment in their department.
- Ensure that all workers and students are instructed in the safe work practices and procedures.
- Require employees and students to use the appropriate personal protective equipment for the task performed.
- Take corrective action to ensure the health and safety of the workers and students.
- Undertake the investigation of accidents and incidents.
- Complete the required accident/incident forms on a timely basis.
- Take corrective action to ensure compliance with standards and procedures within our program.
- Provide employees and students with information about hazards on the job site.
- Cooperate with the Joint Occupational Health and Safety Committee.

Safety Officer

- Provide direction and leadership to the Joint Occupational Health and Safety Committee.
- Make available to all committees information, programs and training that will enable staff to comply with the *Occupational Health and Safety Act*.
- Ensure periodic investigations and inspections of all workplaces are conducted.
- Assist in the investigation of fatal or serious incidents and report findings to management committees.
- Make recommendations for changes and improvements in the workplace under the *Occupational Health and Safety Act*.
- Make regular reports to the Occupational Health & Safety Committee of the University.
- Assist in the development and maintenance in the lab safety program that will meet the education and safety needs of the University in light of present information.
- Assist in the yearly maintenance of WHMIS documentation for hazardous chemicals; oversee safe storage, updates of inventories, Material Safety Data Sheets, and worker education as required under WHMIS.
- Recommend safe storage requirements.

Joint Occupational Health and Safety Committee

- Post the names and work numbers of members.
- Meet regularly as required by the *Occupational Health and Safety Act* or as determined by the Committee.
- Keep and distribute written minutes of Committee activities.
- Conduct or coordinate physical inspections of the workplace as required by

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the *Occupational Health and Safety Act*.

- Follow-up on recommendations.
- Identify sources of danger or hazards.
- Make written recommendations for improvements to the University.

Employees

- Carry out work in a manner that will not create a hazard to own health and safety or that of other employees.
- Assist in identifying hazards at workplaces.
- Report all accidents/incidents to supervisor.
- Participate on the Joint Occupational Health and Safety Committee upon election by co-workers.
- Co-operate with the Joint Occupational Health and Safety Committee members.
- Participate in investigation of accidents and incidents.
- Wear appropriate personal protective equipment for the task assigned.
- Ensure that safe work practices and procedures are followed.

Lab Personnel

- Comply with the University's safety policies and procedures, and departmental regulations associated with all University related activities.
- Seek guidance from professors, instructors or deans concerning safety related knowledge and skills required to ensure safe performance in University related activities.
- Attend safety training programs and meetings as required.
- Immediately report to professors, instructors or deans any accident, near accident, hazardous practice or condition with respect to University related activities.
- Generate labels and Material Safety Data Sheets for controlled substances that are in the University and do not conform to WHMIS standards.
- Develop methods of controlling inventory to ensure that there are no excesses or outdated chemicals in the workplace.

Visitors/Students

- Comply with the University's safety policies and procedures and all other pertinent departmental regulations.
- Meet with the Joint Occupational Health and Safety Committee with respect to inspection reports when necessary to address safety needs.

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

3. JOINT OCCUPATIONAL HEALTH AND SAFETY COMMITTEE (“Committee”)

3.1 Objective

The highest levels of workplace occupational health and safety can only be achieved when employers, employees and self-employed individuals cooperate to identify and resolve concerns. Keeping a workplace healthy and safe is a major responsibility shared by all workplace parties.

These guidelines impose specific duties on the employer. These duties require consultation with the Committee. Where consultation has occurred and the Committee is not able to agree or where the employer does not accept the recommendation from the Committee, the employer still has the responsibility to act to ensure the operation of the Committee.

The Committee provides a vehicle to assist the workplace parties to meet their responsibilities.

3.2 Terms of Reference

3.2.1 Purpose

To provide an employee/employer a forum to address issues related to prevention of illness and injury, promotion of health and safety of employees and protection of employees from hazards in the workplace.

3.2.2 Functions of the Committee

- a) The cooperative identification of hazards to health and safety and effective systems to respond to the hazards.
- b) The cooperative auditing of compliance with health and safety requirements in the workplace.
- c) Receipt, investigation and prompt disposition of matters and complaints with respect to workplace health and safety.
- d) Participating in inspections and/or monitoring/auditing of completion of inspections, inquiries and investigations concerning the occupational health and safety of the employees. Participating in inspections may also include accompaniment where the Safety Officer conducts an inspection.
- e) Advising on individual protective devices, equipment and clothing that, complying with the *Occupational Health and Safety Act* and the regulations, are best adapted to the needs of the employees.
- f) Advising the employer regarding a policy or program required pursuant to the *Occupational Health and Safety Act* or the regulations and making recommendations to the employer, the employees and any person for the improvement of the health and safety of persons at the workplace.
- g) Maintaining records and minutes of Committee meetings in the form and

- manner as stated under the *Occupational Health and Safety Act*.
- h) Performing any other duties assigned to it by the Executive Director of the Occupational Health and Safety Division, Nova Scotia Department of Labour (NSDOL) or any person designated by the Director to act on behalf of the Director or other duties as established by the regulations pursuant to the *Occupational Health and Safety Act*.

3.2.3 Composition of the Committee

The committee shall consist of members representing the following:

- (a) Employee Representatives:
- 2 - CBUFA
 - 1 - NSGEU MOS
 - 1 - NSGEU Teachers
 - 1 - CUPE
 - 1 - Non-unionized employee
 - 1 – Commissionaire
 - 1 – Student (if employed at CBU)
- (b) Employer Representatives:
- 1 - Human Resources
 - 1 - Facilities Management
 - 1- Manager
 - 1 – Student (if not employed at CBU)
- (c) Regular Invited Guests:
- 1 - Housekeeping Services
 - 1 - Food Services
- (d) Technical Advisers:
- Safety Officer
 - Fire Marshall
 - Registered Nurse – Max Bell Health Centre
- (e) 1 Student – A student may be considered an employee representative if employed by the University and represents the student employee group. If the student is not an employee, s/he may sit as an Employer Representative. Selection of students will be made in accordance with the process outlined below. At no time may a student Employer Representative be the only Employer Representative at the meeting.

At least half of the committee members shall be employees at the workplace who are not connected with the management of the workplace. Additional members can be requested by the group they represent. The request will be considered by the Committee and upon unanimous approval, the additional member can join the

Committee.

Regular invited guests and technical advisers are valued Committee members and are encouraged to attend and participate in all meetings. However, they are not counted when determining a quorum and are not permitted to make motions or vote on motions.

3.2.3.1 Procedure for Student Selection

A student representative for the Committee will be selected as follows:

- A general broadcast email is to be sent by Human Resources to all employees, to the CBU Students' Union, and to all students asking for student nominations. This will be done in the second week of September.
- Faculty will be asked to make an announcement in all classes asking for student nominations.
- Student names will be submitted to Human Resources by September 30.
- A list of nominations will be sent to the CBU Students' Union to be approved by the Student Union. If there are more than 2 names on the list, a vote will be held by the CBU Students' Union. Two names will allow for 1 student representative, with 1 alternate.
- Once vetted by the CBU Students' Union, the student will become a member of the Committee either as a management representative or as an employee representative (if employed).
- The duty of the student will be to represent two student bodies - those employed and those enrolled at the University. The name of the student will be posted on the Occupational Health & Safety bulletin board, on the electronic board in the cafeteria and the name announced in Caper Times. The student will be responsible to get input from the general student body, employed students and the CBU Students' Union prior to each meeting.

3.2.4 Frequency of Meetings

The Committee shall normally meet once each month, excluding July and August. The Committee can meet less or more frequently upon unanimous agreement of the Committee. Emergency meetings may be called by any member of the Committee by calling or emailing representatives in order to achieve quorum.

3.2.5 Quorum

A quorum must be achieved prior to the commencement of any meeting. A quorum

is determined (at that time) to be 50% attendance of the Committee membership, i.e. 50% of employee representatives and at least one employer representative (not including the student employer representative).

Once a quorum has been established, it is presumed to exist, despite the departure of Committee members from the meeting. Unless a member makes a point of order indicating that an absence of quorum exists, the meeting can proceed.

A point of order to “terminate the meeting due to loss of quorum” must be called when a minimum representation of three employee representatives and one employer representative remain in attendance.

Until a point of order is called, all prior business of the meeting, i.e. motions and discussions, is unaffected until such a time and shall be reported in the minutes.

3.2.6 Committee Chair

Two members of the Committee shall co-chair the committee - one of whom shall be selected by the members who represent employees and the other who shall be selected by the other members who occupy employer seats. Each co-chair is responsible for chairing alternate meetings as mutually agreed upon.

3.2.6.1 Co-Chair Responsibilities

- The co-chair shall assure that the member speaking is heard by insisting members listen and not permit irrelevant discussion.
- The co-chair is responsible for conducting a well organized and effective meeting of the Committee in accordance with the “Rules of Procedure” noted below.
- The co-chair shall conduct a meeting in a fair and impartial manner and give every member an opportunity to participate and speak at a meeting.

3.2.7 Appointment of Officers

- a) During the September meeting, the position of secretary, management co-chair and employee co-chair will be reviewed by the Committee.
- b) The co-chairs will be selected by the Committee members present at the meeting, with one selected by management and one by employees.
- c) The secretary will be selected from the general membership and could represent either management or employees.
- d) The regular terms for each position are as follows:
 - Secretary - 2 years
 - Co-chair - 1 yearThe position of Secretary may be filled on a month-to-month basis.

- e) The meeting at which the selection occurs shall be announced in the Agenda two weeks prior to the date of the meeting.
- f) Should a co-chair or secretary resign, the alternate will be asked to assume the role as an interim co-chair or interim secretary. If the alternate is unable to fulfil the role, the Committee will be asked to elect a replacement in the same manner as described above. Normal elections will take place the following September.

3.3 Rules of Procedure

The employer shall ensure that the Committee adopts rules of procedure which include provisions for:

- a) the size, composition and operation of the Committee;
- b) meetings (see section 3.2.4 above);
- c) recording minutes, record keeping and their maintenance;
The elected secretary will keep minutes of the meetings. They will be posted on eight bulletin boards throughout campus. They will also be available in a binder in the Human Resources Department.
- d) communications;
Notice of meetings is sent via email to all members. The Human Resources Assistant in the Human Resources Department is responsible for this communication.
- e) conducting inspections;
Inspections may be conducted by Public Health Students taking ENVI 2163 and/or PUBH 4105, under the supervision of the Safety Officer.
- f) establishment of ad hoc sub-committees to investigate a topic or issue and formulate recommendations for JOHSC;
Any such sub-committee will be disbanded upon completion of the task so assigned.
- g) conducting investigations, including responding to concerns and work refusals.
The Safety Officer will investigate any incident determined to require such investigation. The report will be brought to the Committee for discussion and recommendations.
- h) requesting the replacement of a Committee Member if such Member fails to attend meetings regularly or fails to actively participate in the business of the Committee and comply with the rules of procedure. In doing so, JOH&S may directly contact the President of the Union local in the case of an employee who represents a unionized group or the Director of Human Resources in the case of a management representative or representative of non-unionized employees.

3.4 Training

Training for Committee members can be requested at any time by any of the members. Additional training may be provided by the Safety Officer or other invited guest. Members may also attend external training sessions.

3.5 Minutes

The secretary of the Committee will ensure that minutes are taken at each Committee meeting. Draft minutes will be prepared by the Human Resources Assistant (or designate) and reviewed by the Secretary before distribution to Committee members. If the secretary is not present, a volunteer will be selected to ensure minutes are taken. The minutes of the Committee meetings shall include:

- a) the name and address of the workplace and employer;
- b) the meeting date;
- c) the name of the person chairing the meeting;
- d) the name of the alternate co-chair;
- e) the names of the members present;
- f) the agenda items discussed;
- g) a list of unfinished business;
- h) a list of concerns with a clear statement of the nature of each concern;
- i) a unique numeric identification for each concern so that it can be tracked individually;
- j) a clear identification of the action proposed or taken and person(s) responsible for the action in relation to each concern;
- k) an identified target date for completion of the action, if possible;
- l) a list of concerns that have been dealt with prior to the meeting;
- m) a record of inspections conducted, complaints received, investigations conducted, work refusals and accidents/incidents reported;
- n) other business that could include, a list of any proposed educational presentations, and the date of the next scheduled meeting;
- o) a list of correspondence;
- p) amendments to the prior month's minutes;
- q) motions proposed and seconded as well as those that are not brought to a vote; and
- r) a clear statement of the nature of all health and safety hazards discussed at meetings.

The secretary will:

- a) ensure distribution of the minutes to Committee members (by email or regular mail);
- b) ensure that Human Resources receives a copy to maintain the minutes on file for a five year period;

- c) post the minutes on the bulletin boards in the workplace. The eight bulletin boards are as follows:
 - Campus Centre – near Caper Convenience
 - Boiler room, C wing
 - CE wing, near Royal Bank Lecture Theatre
 - Marvin Harvey Building, opposite the Learning Commons;
 - Arseneau Britten Building, second floor, at top of stairs between Nursing and Chemistry;
 - Canada Games Complex;
 - Technology Enterprise Centre (TEC) – near boardroom T-7; and
 - Centre for Sustainability in Energy and the Environment (CSEE) – near the entrance to Shannon School of Business.
- d) keep track of Committee and Safety Officer recommendations to be reviewed at the annual policy review meeting.

A copy of the *Occupational Health and Safety Act* will also be posted on the same bulletin boards, along with fire drill information, evacuation routes, and fire warden names.

3.6 **Communications**

- a) The Committee will hold a special meeting in May of each year to review the adequacy of the following:
 - i) the Occupational Health and Safety Policy;
 - ii) the WHMIS training program; and
 - iii) the Occupational Health and Safety program in the workplace.
- b) The employer will provide information to persons in the workplace on an annual basis in the form of an on-line quiz or by seminar provided by the Safety Officer or other outside resource.
- c) The employer will ensure that management, and in particular, supervisors are aware of the Committee, its functions, and the supervisors' responsibility to cooperate with the Committee.
- d) The employer will establish a process for the provision of accident and incident information to the Committee at its regularly scheduled meetings.
- e) The Committee will establish process for providing its recommendations in writing to the employer.
- f) The Human Resources Department shall send letters to each of the unions and other groups asking for nominations every two years. These letters should be sent to correspond with the annual general meetings of each of the unions. Selection of student(s) will be made in September as per the

process outlined for student selection.

3.7 Inspections

The University is committed to identifying and correcting unsafe practices and conditions. All workplaces will be inspected on a regular basis. Inspections will include general inspections, inspections under the Canadian Nuclear Safety Commission and fume hood inspections.

Science labs will be inspected by an inspection method agreed upon by the Dean of the School of Science & Technology. All other labs will be inspected by an inspection method agreed to by the appropriate Dean. Other areas will be inspected by students in the Public Health Program under the supervision of the Safety Officer.

3.7.1 General Inspections

- (a) The University will require periodic inspections of the facilities and work areas at least annually. Inspections may be conducted more frequently if deemed necessary by the Committee. See the schedule below of areas to be inspected.

AREAS FOR INSPECTION	FREQUENCY OF INSPECTIONS
Arseneau-Britten Building (Labs)	Nov/Mar
Arseneau-Britten Building (other)	Nov
Marvin Harvey Building (computer labs, classrooms)	Mar
CSEE	Nov
C Wing	Mar/Nov
Maintenance Dept & Boiler Room	Mar/Nov
Campus Centre (offices, classrooms)	Mar
Campus Expansion Section	Mar
Library	Mar
Cafeteria	Mar/Nov
Playhouse	Nov

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Students' Union	Nov
Field House	Nov
Canada Games (other)	Mar
Canada Games (ice plant)	Nov/Mar
Residences	Nov

- b) In the event of a temporary change in the defined inspection schedule, the change shall be reviewed and recorded by the Committee.
- c) The employer will ensure that the rules of procedure adopted by the Committee establish a process for the Committee or subcommittee of its members to participate in inspections.
- d) These inspections, other than in labs, shall be conducted under the direction of the Committee and under the supervision of the Safety Officer. Students will perform the inspections as part of their course work in the Public Health Program (courses ENVI 2163 and PUBH4105) under the supervision of the instructor.
- e) The reports shall be reviewed by the Safety Officer who will provide a summary report to the Committee and will forward the original reports to the Dean or department head of each area who shall review the report and respond to the Committee indicating corrective action taken.
- f) The response shall be forwarded to the Committee within 30 days. Problems of a highly urgent nature will be reported to the manager immediately (verbally) during the inspection process with written follow-up on the report.
- g) An approved inspection form shall be used and shall include hazard classification. See Appendix 1.
- h) Reports of inspection shall be posted in all areas upon completion of process and after being reviewed by the Committee and made available to all employees upon request. A complete copy of inspection reports and follow-up actions will be kept on file in the Human Resources Department for a period of five (5) years.

3.7.2 As part of the Canadian Nuclear Safety Commission requirements for a site which contains radioactive devices, inspections in accordance with licensing requirements may be carried out from time-to-time by the Radiation Safety Officer or the CNSC inspector. These inspection reports will be posted on the Occupational Health & Safety Bulletin boards and will be made available to any interested member of the Committee.

3.7.3 Fume Hood Inspections - As part of the requirements for the safe operation of fume hoods, annual inspections are performed by the Facilities Management by hiring an outside consultant. Copies of these inspections and a summary of the fume hoods that did not meet the certification

requirements will be sent to the Safety Officer and to the Dean of the School of Science & Technology and made available to any member of the Committee as required.

3.8 Committee Involvement in Investigations

- a) The employer will ensure that the Safety Officer carries out an investigation of any incident where an investigation becomes necessary.
- b) The Safety Officer will report back to the Committee with any recommendations for improvement.
- c) The employer will ensure that the Committee has the authority to participate in investigations and/or audits. The rules of procedure will establish criteria to be used by the Committee in its decision making to initiate an investigation.
- d) Where there is disagreement within the Committee regarding initiating an investigation, the employer will provide direction to the Committee.
- e) Where a worker identifies a complaint to the Committee or a member of the Committee, the employer will ensure that there is an assessment of the complaint and a response. Where reasonably practicable, the response to the complainant will be within one shift worked by the complainant. The response must indicate what the Committee or member has done and the process that will be used to follow up on the complaint if not resolved at the time.

3.9 Rules of Conduct

Members' remarks shall:

- pertain to the question being debated. If the member wanders off the subject, the co-chair must request remarks to be confined to the pending question.
- be impersonal and addressed to the motion/subject being considered; and
- be orderly and courteous; otherwise, the co-chair may refuse the offending member the right to speak.

3.9.1 Role of Committee Members

Committee members are expected to attend meetings on a regular basis and if unavailable, should advise the co-chair in advance of the meeting. If a member cannot attend a meeting, the member should find an alternate to attend in his/her place. This ensures continuity of items on the agenda and ensures action items are completed.

Role of Committee members in dealing with employee concerns should take place as follows:

When a matter has been reported to a member, the member should:

- determine the facts of the situation;

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- direct the employee to take the matter to a first line supervisor (chair, dean, director);
- if the matter is not resolved, the member should raise the issue at the next committee meeting or consider calling an emergency meeting;
- respond to the employee who initiated the complaint or concern within one day of the Committee meeting where possible and advise him/her of how the concern is being handled;
- if the matter has not been dealt with, have the employee call NSDOL.

3.9.2 Role of Committee

If the matter is not resolved to the satisfaction of the employee, the Committee shall:

- investigate the concern and make a recommendation to management;
- notify the employee, in writing, of any decision or recommendation made by the Committee to management with respect to the employee's concern. The majority of health and safety problems brought to the Committee should be resolved by making an appropriate recommendation to management;
- address issues as soon as possible and explain the reasons for any delay to the employee(s);
- report the complaint to NSDEL if the concern involves an immediate source of danger and satisfactory action is not taken by the employer;

3.10 Guests

The Committee may, on occasion, request or require additional parties other than the membership to attend meetings, e.g. to provide information to the Committee. The Committee member making the request shall inform the Committee at the meeting prior to the proposed date of the visit, explaining the purpose behind the request. The Committee can vote at the time as to the acceptability of the request. At least 50% of the membership must agree as to the acceptability of the guest. If the need is more urgent, the member requesting the visitor can either email or send voicemail to Committee members requesting the presence of the guest at the next meeting. So long as 50% of the membership agrees to the attendance of the guest, it will be accepted. The guest may participate in the meeting, but does not count in the quorum and does not vote.

3.11 Alternates

A member who is an alternate can attend at any time, but will not be given a vote or considered part of a quorum, unless the person they alternate with is not present.

3.12 Observers

The Committee may, on occasion, welcome additional parties other than the membership to attend meetings. An observer may be invited by any sitting member

of the Committee. The member should give at least 48 hours notice by email that an observer has been invited and the reason for the invitation. The observer does not participate in the proceedings, does not count as part of the quorum and does not vote.

3.13 Procedures for Changing Terms of Reference, Policies or Other Related Documents for the Committee

Written notice of a motion to amend or revise the terms of reference of the Committee, policies, or other related documents must be given to all members of the Committee at least two weeks prior to the meeting where the amendments or revisions will be formally moved. The placing of said notice in members' mailboxes within the specified time limit shall fulfil this requirement.

Amendments and revisions of the terms of reference of the Committee must be approved by two-thirds majority of the Committee members and shall then be forwarded to the President's Office for approval.

3.14 Evaluating the Committee

When employees regularly make suggestions to Committee members, it indicates that communication channels are open and operating the way they should and that employees have confidence in their members. In order to ensure this continues, any employee who raises a health and safety concern should be given a prompt response.

3.15 Program Effectiveness Monitoring

JOHSC will have an annual program review meeting each year. During this meeting, the effectiveness of the OHS program will be reviewed by a number of methods. Discussions will be held to determine future goals and directions, and new initiatives or policies that require development. Some of the methods for review will include, but are not limited to the following:

- a. Review of internal safety work orders, % complete, time to completion, etc.
- b. Review of # of complaints received, time to resolution/recommendation/escalation.
- c. Review of OH&S education sessions offered in past year as well as attendance at same.
- d. Review of on-line testing and results.
- e. Review of new employee OH&S orientation materials.
- f. Review of survey results (given to employees from time to time) to assess understanding of OHS roles, responsibilities and other issues.
- g. Review of incident data.
- h. Review of accident data.
- i. Review of lost time data.

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- j. Review of WCB data.
- k. Review of # and type of issues/complaints dealt with by JOHSC members prior to reaching committee.
- l. Review of # and type of issues/complaints dealt with by safety officer prior to reaching committee.

Policy implementation date: 2005	
Revised:	October 2008 February 2010 June 2010 October 2010 January 2012
Next Review:	February 2013

4. **GENERAL SAFETY RULES**

The following rules apply to all employees of the University.

1. All accidents, injuries, near misses, unsafe conditions and practices are to be reported to your immediate supervisor.
2. All work must be carried out according to appropriate safe work practices and your supervisor's direction.
3. All employees must wear proper personal protective equipment as prescribed by the regulations. Safety footwear and hard hats are mandatory on all construction projects, and where deemed necessary in shops and maintenance areas. Safety glasses shall be worn whenever there is an exposure to eye injury.
4. All tools are to be used for the purpose in which they were intended.
5. All electrical tools must be grounded or double insulated.
6. All damaged or worn equipment is to be promptly taken out of service for repair or replacement.
7. Welding or burning operations are to be carried out only by authorized personnel outfitted with the appropriate protective equipment.
8. Compressed gas cylinders shall be transported in a secure and upright position only.
9. Good housekeeping practices must be maintained in all work areas.
10. All employees are prohibited from arriving at work or remaining at work when their ability to perform the job safely is impaired.
11. Fighting, horseplay, practical jokes or otherwise interfering with and endangering the health and safety of others is prohibited.
12. Consumption of alcoholic beverages is prohibited during working hours.
13. Use of illegal drugs on the University premises is strictly prohibited.
14. The smoking policy of the University is to be followed at all times.
15. Do not litter in building or on University grounds, use appropriate receptacles. (Recycle)

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16. Do not block doors or fire exits.
17. Theft, vandalism or any other abuse or misuse of the University property is prohibited.
18. First Aid treatment for any injury is to be obtained promptly.
19. All persons shall obey all posted safety warning signs and all traffic signs and regulations.
20. Keep all wheelchair ramps clear for wheelchair accessibility.
21. Park cars in designated lots.
22. Jewellery of any kind is to be removed when work involves climbing, material handling or operating mechanical equipment.
23. Offices and laboratories should be locked at all time when not in use.
24. Janitorial staff should not leave equipment and carts in hallways.
25. Persons must cooperate with staff efforts to comply with occupational health and safety requirements.
26. All employees shall have access to literature concerning Occupational Health & Safety legislation such as the right to refuse work, harassment and violent acts.
27. Before employment from outside contractors commences, the contractor shall show proof that the employee is trained in OHS, WHMIS, MSDS and First Aid. This training is the sole responsibility of the contractor.
28. The fire extinguisher will be in good working order and readily available as well as emergency supplies and first aid kits.

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

5. GENERAL POLICIES AND PROCEDURES

5.1 Accident and Incident Reporting

Policy

All accidents and dangerous incidents must be reported.

Procedure:

1. In the event of an accident resulting in death or life threatening injury, the Safety Officer, Chief of Commissionaires, Director of Human Resources, Chair of the Department, appropriate Dean or Director and the President's Office must be notified immediately.
2. All accidents involving any faculty or staff in which any injury occurs, will be reported to the Safety Officer by phone if the matter is urgent or if not urgent, on the Incident Accident Report form that is available from the Health & Safety Officer or the Human Resources Department. See Appendix 2.
3. Copies of these completed forms will be sent to the head of the appropriate department(s) and the accident or incident will be investigated by the Director of Human Resources or Safety Officer. All employee accidents must be reported to Human Resources within five working days in order that appropriate Workers' Compensation forms are completed and submitted. Failure to complete such forms can result in substantial fines for the University.
4. Accidents involving students in which injury occurs must be reported to Student Services. Accidents involving visitors in which injury occurs must be reported to the Finance Office. The Safety Officer may be asked to investigate these accidents if the situation warrants it.
5. Any final recommendations following these investigations will be forwarded to the Dean or manager of the department for any action necessary.
6. In the case of an accident or incident involving an employee, copies of the Accident Incident Report, together with any recommendations made following any investigations, will also be forwarded to Human Resources.
7. The Nova Scotia *Occupational Health and Safety Act* requires that the Occupational Health and Safety Division of the Nova Scotia Department of Labour must be notified:
 - a) of a fire or accident in the workplace that occasions bodily injury to an

employee;

- b) of an accidental explosion in the workplace whether any person is injured or not;
- c) where in the workplace a person is killed from any cause or is injured in such a manner that is likely to prove fatal.

In the event of any such situation, the Director of Human Resources or designate must be notified immediately, and will be responsible for notifying the Nova Scotia Department of Labour.

Responsibility - The Deans and Departmental Managers through their faculty and staff.

5.2 Maintenance Program Policy

The University will ensure all tools, vehicles and equipment are inspected for defects, faults or damage before use each day by the assigned worker. All tools will be further inspected at the end of each workweek. Tools determined to be not in good working order will be immediately tagged and removed from service. All tools removed from service will be inspected and repaired by qualified personnel.

For more information on maintenance practices, please see the Maintenance Safe Work Manual on the CBU web site, under Human Resources.

5.3 Program Effectiveness Monitoring

To ensure they are kept informed of health and safety issues brought before the Committee and of Committee progress in dealing with such issues, CBU Vice Presidents shall be provided with the following:

- o The minutes of regular monthly meetings as well as special meetings;
- o A report from the JOHSC Annual Meeting including recommendations from JOHS based on the program review.

Any VP who has concerns related to the above may bring such concerns to the Committee through the co-chairs or may choose to bring such concerns directly through attendance at a meeting of JOHS.

Policy implementation date:	2005
Revised:	October 2008
	October 2010
Next Review:	October 2011

6. EMERGENCY PREPAREDNESS

6.1 Guide for Fire and Other Emergencies in University Buildings

Building emergencies are an ever present threat to an organization. They can develop from a number of causes including fire, bomb threats, gas leaks and chemical spills. Any of these may threaten the safety of building occupants.

6.2 Policy

A new Emergency Preparedness Plan that will incorporate a “SAFE program” (School Action for Emergencies) is under development. In the interim, please refer to the Emergency Response Plan location at:

<http://www.cbu.ca/emergency-response-plan>.

6.3 Emergency Procedures Organization

6.3.1 Indemnity

Emergency Procedures Organization Personnel are indemnified against civil liability, resulting from practice or emergency evacuation of a building where they act in good faith and in the course of their duties.

6.3.2 Mobility Impaired Persons

During an emergency evacuation, employees or students who are mobility impaired should identify themselves to the Fire Warden or other persons in the area who can provide special assistance.

6.4 Roles and Responsibilities

6.4.1 Chief Warden

Appointed and responsible to Director of Human Resources for all matters relating to:

- a) Emergency preparedness in the building.
- b) Evacuation control during an emergency.

When notified of an emergency, the Chief Warden will:

- a) liaise with commissionaire and appropriate warden in determining location and type of emergency;
- b) assess situation in conjunction with the area warden and decide if emergency is controllable;
- c) ensure the alarm pull station has been activated when necessary;
- d) if warranted, evacuate all personnel;
- e) liaise as necessary with fire department;
- f) receive reports from wardens in the area as each area evacuation is completed;
- g) notify those in designated meeting areas when the building is clear for re-entry; and
- h) arrange, in conjunction with Human Resources, a debriefing related to emergency evacuation.

6.4.2 Area Wardens and Commissionaire

Each section will have allotted sufficient wardens who, under the control of the Chief Warden, will be responsible for the safe and efficient evacuation of building occupants during an emergency.

Notes for Wardens:

- a) If the emergency is on your floor, assess the situation and make sure the Chief Warden has been notified.
- b) Direct fire fighting operations if safe to do so. (This would apply only in the case of very small confined fires, e.g. wastebasket.)
- c) If necessary or in doubt, pull fire alarm and commence evacuation.
- d) Direct people to the fire stairs and prevent them from using elevator. Direct them to the designated meeting area and advise to wait there for further instructions.
- e) Leave by the nearest exit when the area is cleared and proceed to central meeting area (outside Campus Centre) and call in report to Chief Warden or Commissionaire at ext. 1133 or by cell phone at 578-2316.
- f) Report to those waiting in meeting area when all clear.

6.4.3 Persons in Charge of Classes

When the alarm is raised, take the necessary action to facilitate a safe, efficient evacuation of students as required.

Please ensure your students have exited your classroom and are moving to the appropriate exit.

6.4.4 First Aid

Those trained in first aid must check with the warden to determine if assistance is required.

6.5 Fire and Other Emergencies

Staff and Students:

- a) Alert others in the vicinity of the emergency. Do not shout fire. To do so may cause panic.
- b) Activate fire pull station if unsuccessful in controlling fire or if not trained in use of fire extinguisher.
- c) If you have been trained in the use of portable fire extinguishers, attempt to extinguish or control the fire if safe to do so.
- d) Try to close doors and windows to prevent the spread of fire and smoke before evacuating the area if this can be done safely.
- e) Obey all directions given by wardens, Commissionaire, person in charge of classes, or fire fighting personnel.
- f) If not involved with controlling the emergency, keep away from the danger area.
- g) Go quickly and quietly and in an orderly manner to the closest fire stair or exit.
- h) Move well clear of the building to avoid obstructing emergency services personnel and other people leaving the building.
- i) Do not re-enter the building until the "all clear" is given.
- j) Do not attempt to obtain personal effects from rooms as this could contribute to confusion, delay and disruption to the orderly and safe evacuation of the building. It could also endanger your life.

6.6 Bomb Threats

Bomb threats are usually received either as a telephone call or as a written letter.

Written Threat: If a bomb threat is received in writing, it should be kept including any envelope or other container. Unnecessary handling must be avoided and every possible effort must be made to retain possible evidence such as fingerprints, handwriting, typewriting, paper and postmarks. Such evidence should be protected by placing in a large envelope.

Telephone Threat: The person receiving the call should not disconnect the caller and should complete the information required on a Bomb Threat Checklist. Bomb Threat Checklists should be held by reception areas and other persons who regularly accept incoming phone calls.

Report details without delay to the Director of Human Resources or Commissionaire.

Evacuation: If evacuation is ordered, personnel should first check the work area for unusual objects and mark these with a sheet of paper without touching the object. They should then collect their personal bags and belongings and leave the building reporting the location of unusual objects to the Commissionaire.

6.6.1 Bomb Threat Checklist (place under your telephone)

Questions to ask:

1. When is the bomb going to explode?
2. Where did you put the bomb?
3. When did you put it there?
4. What does the bomb look like?
5. What kind of bomb is it?

Exact Wording of Threat

Action - Report call immediately to Commissionaire

Threat Language

1. Well spoken
2. Incoherent
3. Irrational
4. Taped
5. Message read by caller
6. Abusive
7. Other

Background Noises

1. Street noises
2. House noises
3. Aircraft
4. Voices
5. Music
6. Machinery
7. Internal call
8. External call
9. Cell phone
10. Other

Caller's Voice

1. Accent (specify)
2. Any impediment (specify)
3. Voice (loud, soft, etc.)
4. Speech (fast, slow, etc.)
5. Diction (clear, muffled)
6. Manner (calm, emotional, etc.)
7. Did you recognize the voice?
8. If so, who do you think it was?
9. Was the caller familiar with the area?

Other

1. Sex of caller - male or female
2. Estimated age

Call Taken

1. Date and time
2. Duration of call
3. Number called

Recipient

1. Name (print)
2. Phone number
3. Signature

REMEMBER, KEEP CALM - DO NOT HANG UP!

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Emergency Phone Numbers

Ambulance: 9 - 911

Police: 9 - 911

Fire Department: 9 - 911

Municipal Water Department: _____

NSPC Area Office: _____

Medical Emergency/Hospital: _____

Emergency Response Team:

Manager: Office # _____ Cell # _____ Home # _____

Safety Officer: Office # _____ Cell # _____ Home # _____

Support Staff/First Aiders:

Communication: Office # _____ Cell # _____ Home # _____

Other:

Coordinators: Office # _____ Cell # _____ Home # _____

Directors: Office # _____ Cell # _____ Home # _____

Superintendent: Office # _____ Cell # _____ Home # _____

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

7. WORKING IN OUTSIDE ENVIRONMENTS

Working in hot environments can be uncomfortable and also may adversely affect our health. How hot we feel depends on temperature, humidity, wind speed, and type of work.

7.1 Humidex

In the weather forecast, the degree of environmental heat is often given in terms of Humidex which is determined by taking into account the temperature and humidity of the ambient air.

<u>Humidex Range</u>	<u>Degree of Comfort</u>
2 - 29	Comfortable
30 - 39	Degrees of discomfort vary
40 - 45	Uncomfortable
46 and Over	Many types of labour (must be restricted)

7.1.1 Potential Health Problems

Heat Stroke: The most serious heat illness is heat stroke. Signs of heat stroke include dry, hot skin due to failure of sweating and complete or partial loss of consciousness. Heat stroke can be fatal and requires prompt first aid and medical attention.

Other Health Disorders

Less severe health problems include:

- **Heat Edema** - swelling of the ankles.
- **Heat Rashes** - tiny red spots on the skin that causes a prickling sensation during heat exposures.
- **Heat Cramps** - sharp pains in muscles resulting from the failure to replace salt loss from sweat.
- **Heat Exhaustion** - weakness, dizziness, visual disturbances, intense thirst, nausea, headache, vomiting, diarrhea, muscle cramps, breathlessness, palpitations, and tingling and numbness of the hands and feet.
- **Heat Syncope (Fainting)** - caused by loss of body fluids through sweating and by lowered blood pressure, due to pooling of blood in the legs while working in a standing position.

If you notice any of the above symptoms, go to a cool place.

7.1.2 Preventing Heat Related Illnesses

Acclimatization - people who work regularly in hot environments develop a certain degree of tolerance (acclimatization) for heat. Most of the acclimatization occurs in the first three or four days, and complete acclimatization may require seven to eleven days.

Clothing - loose cotton clothing provides adequate protection in hot and humid conditions.

Work/Rest Schedule - a schedule of work-rest periods is generally recommended for working in hot conditions.

Drinking Water - you should drink plenty of cool 10 - 15 degrees C water or fruit drink every fifteen to twenty minutes even though you may not feel thirsty. Thirst is not an adequate indicator of the body's need for water.

7.2 Working in Cold Environments

Working in cold weather can be dangerous to the unprepared, and to people without adequate protective clothing. Two types of cold hazards are common: hypothermia and frostbite.

Hypothermia can be fatal. It results from the cooling of the deep inner body or "core" to a temperature below 34.5 degrees C due to prolonged exposure to cold. Persons exhausted during physical work are more prone to hypothermia. The victim can become listless, confused and make little or no effort to keep warm.

The hypothermia victim should be immediately warmed, either by being moved to a warm room or by the use of blankets. In severe cases of hypothermia, immediate medical care is necessary.

Frostbite is freezing of the body tissues as a result of extremely cold temperatures or contact with extremely cold metallic objects such as an automobile or fence.

Caution: Consumption of alcohol does not increase tolerance for cold. Instead, it increases the risk of hypothermia.

7.2.1 Effect of Wind

At any temperature, one feels colder when it is windy. The combined effect of cold and wind speed is expressed as "wind chill" or "equivalent chill temperature". For exposed skin, continuous exposure should not be allowed when ECT is -32 degrees C or lower.

7.2.2 **Protective Clothing**

Multiple layers of lightweight loose fitting clothing provide better protection against the cold compared to single thin layer clothing. Eye protection must be separated from respiratory channels (nose and mouth) to prevent exhaled moisture from fogging and frosting eye shields. For work in wet conditions, the outer layer of clothing should be waterproof. Clothing should be kept clean. Dirt destroys its insulating ability. Clothing must be dry.

Gloves should be used below 4 degrees C for light work and -7 degrees C for moderate work. For work below -17.5 degrees C, mittens should be used. Felt-lined, rubber bottomed, leather-topped boots with removable felt insoles are best suited for heavy work in cold.

More than 50 per cent of body heat can be lost through the head when the rest of the body is covered. A wool knit cap or a liner under a hard hat reduces excessive heat loss.

7.3 **Ultraviolet Rays (UV)**

In summer months, outdoor work may cause damage to the skin and eyes due to ultraviolet radiation exposure. UV rays are an invisible part of sunlight. Besides direct exposure to sunlight, harmful UV ray exposures are possible due to reflections from water, sand and concrete.

7.3.1 **Effect on Skin**

UV rays cause darkening of the skin, skin burns and erythema (reddening of the skin). Prolonged exposure increases the risk of skin cancer.

Certain substances increase the risk of damage due to UV radiation. These are known as photosensitizing agents. Such agents include certain medications, tranquilizers, cosmetics, plants, weeds, and coal-tar creosote.

7.3.2 **Effect on the Eyes**

The eyes are particularly sensitive to UV radiation. A short exposure can result in painful, but temporary conditions such as watering, blurred vision and pain.

7.3.3 **UV Index**

The Environment Canada Weather Service rates the UV intensity as UV index on a scale of 0 to 10.

UV Index Table

<u>Index</u>	<u>Category</u>	<u>Implications</u>
9 – 10	Extreme	Sunburns and skin damage can occur in less than 15 minutes. Minimize exposure.
7 – 9	High	Sunburns and skin damage can occur quickly. Minimize sun exposure if possible.
4 – 7	Moderate	Take precautions to limit exposure to the sun.
L4	Low	Minimal precautions necessary for normal activity.

- Avoid midday sun.
- Wear clothing that is tightly woven to block sunlight.
- Wear broad-brimmed hat that will shade your face, neck, and ears.
- Apply waterproof sunscreen with a sun protection factor of 15 or higher to all exposed skin.
- Wear UV filtering sunglasses

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

8. WHMIS

WHMIS stands for Workplace Hazardous Materials Information System. It is a Canada-wide system to provide information about hazardous materials used by employees on the job. There are three essential elements to WHMIS:

Labels
MSDS - Material Safety Data Sheets
Education and Training

WHMIS is for every employee's protection. WHMIS describes the danger of materials employees use on the job and tells how to protect yourself from their hazards. Employees must know if material has hazardous labels and safety data sheets.

CLASS

Class A: Compressed Gas (Oxygen)

Class B: Flammable and Combustible Material (Acetylene)

Class C: Oxidizing Material (Chromic Acid)

Class D: Poisonous and Infectious Material

1. Material causing immediate and serious toxic effects (Ammonia)
2. Materials causing other toxic effects (Asbestos)
3. Biohazardous Infectious Material (Contaminated Blood Products)

Class E: Corrosive Material (Hydrochloric Acid Sodium Hydroxide)

Class F: Dangerously Reactive Material (Metal Azides)

Labels

All controlled products must have a label that identifies the product by:

1. Name
2. WHMIS Hazard Symbol
3. Risk Factor
4. Precautions
5. First Aid Instructions

6. MSDS Referral
7. The Supplier

Material Safety Data Sheets

1. Give detailed information of a product and its hazards:
 1. Product Information
 2. Hazardous Ingredients
 3. Physical Data
 4. First Aid Measures
 5. Fire and Explosion Data
 6. Toxicological Properties
 7. Reactivity Data
 8. Preventative Measures
 9. Preparation Date and Group
2. Every employee can and must protect himself/herself by:
 1. Practising safe work habits
 2. Be informed
 3. Use personal protective equipment
 4. Known emergency procedures
 5. Follow first aid practices.
3. WHMIS is for safety in the workplace - if an employee is not sure ASK SUPERVISOR.

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

9. INDOOR AIR QUALITY

9.1 Introduction

The University acknowledges that indoor air quality can be affected by any of a myriad of airborne gaseous and solid contaminants. Whenever possible, contaminants will be identified and controlled to minimize exposure. If necessary, measurements of air quality can be made under the direction of the Safety Officer. As much as possible, the University will attempt to meet the guidelines provided by the voluntary standard, ASHRAE 62-2001. However, the University also recognizes that it may be difficult to meet the guidelines in older buildings that were designed prior to the standards being written. Requests for an indoor air quality assessment should be forwarded to the supervisor, who will then direct it to the attention of the Safety Officer.

9.2 Carbon Dioxide

Carbon dioxide is a product of human respiration. It is a normal constituent of fresh outdoor air in a concentration of 330-350 ppm. The concentration of carbon dioxide in indoor air is a good indicator of the adequacy of ventilation and the dilution of contaminants and odours. As the volume of fresh, outdoor air supplied into the building decreases, the concentration of carbon dioxide increases. This is especially true of schools, with a large occupancy load. For the purposes of providing fresh air to occupants in "office buildings", 20-30 cfm/person should be supplied. This may be a difficult standard to meet in a classroom setting.

As the concentration of carbon dioxide reaches 800 ppm or more, there are increasing complaints of "stuffy air", lack of ventilation, lack of oxygen, headaches, and fatigue. As the levels go above 1000 ppm, these complaints are more common and may be more severe in some people.

9.3 Temperature

Thermal discomfort may be related to the ambient air temperature, air stratification and air velocities (as well as relative humidity). Individuals vary with respect to what temperature is most comfortable for them. If someone is dissatisfied with the temperature, the result may be a reduction in performance and an increase in fatigue. Wide swings in temperature also affect the body's ability to regulate its temperature and can lead to increasing discomfort. Thermostats should be set at one temperature, with slight adjustments for changing levels of activity in the room. Large changes in temperature can also lead to changes in humidity levels that can further impair comfort.

9.4 Humidity

Humans are designed to function best at relatively high levels of humidity (>40%). Low humidity can lead to feelings of being too hot or too cold; nose, throat, and eye irritation; dry skin; headaches; nose bleeds; exacerbation of cold and flu symptoms; and static electricity. Wide swings in humidity can also lead to discomfort in people, and may accompany wide swings in temperature.

High humidity may result in a decrease in the cooling system of the body, leading to fatigue, stiffness and headaches. It may also lead to condensation, which can pave the way for microbial growth.

9.5 Carbon Monoxide

Carbon monoxide is a colourless, odourless, toxic gas that is a product of incomplete combustion. Contamination occurs when combustion gases are not properly exhausted, are being re-entrained into the building, or are coming inside from an external source. Few effects are seen at low concentrations. At higher concentrations, health effects include headaches, decreased alertness, flu-like symptoms, nausea, fatigue, rapid breathing, chest pain, confusion, and impaired judgement.

Summary

Contaminant	Health Effects
Carbon dioxide	Feeling of lack of ventilation, complaint of lack of oxygen, stuffiness, headaches, fatigue
Temperature	Reduced performance, fatigue
Low Humidity	Discomfort, feeling too hot or cold, nose irritation, throat irritation, eye irritation, dry skin, headaches, nose bleeds, exacerbation of cold/flu symptoms, static electricity
Carbon monoxide	Headaches, decreased alertness, flu-like symptoms, nausea, fatigue, rapid breathing, chest pain, confusion, impaired judgement

Standards used for interpretation of indoor air quality

standard	parameter
<1000 ppm ^c	carbon dioxide
5 ppm ^b	carbon monoxide
20-23.5 C (winter) ^c 23-26 C (summer) ^c	temperature
25-68% ^d 30-40% (winter) ^c 40-60% (summer) ^c	humidity
20 - 30 cfm fresh air/person ^d	air supply

^athis recommended level varies with the organic compound of interest.

^bIndoor Air Quality in Office Buildings (Canadian target guideline value)

^cASHRAE 62-2001, Ventilation for Acceptable Indoor Air Quality

^dASHRAE 55-1992, Thermal environmental conditions for human occupancy

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

10. **ERGONOMICS**

10.1 **Policy**

It is the policy of the University that ergonomics is an important aspect of occupational health and safety. Whenever possible, the University will purchase ergonomically designed furniture and equipment to ensure good workplace design. The employee's physical condition, attributes and duties should be considered when designing the workplace or purchasing equipment and furnishing. Ergonomic assessments can be performed by the Safety Officer upon request.

10.2 **Ergonomic Assessments**

An assessment can be performed by the Safety Officer if requested by the faculty or staff member. The assessment will include a physical review of the workplace, equipment, furniture, duties and the physical ability of the employee. Recommendations will be made with respect to improvements that can be made to provide a better ergonomic design. On occasion, a physiotherapist or other medical practitioner may also be involved in the process to ensure good design.

10.3 **Carpal Tunnel Syndrome**

This disease affects many Canadians and is on the rise. It occurs mainly due to repetitive tasks involving wrist rotation, flexion or extension. It can be prevented by reducing the amount of strength required to perform a task, reducing the repetition needed to do the task, or by relieving the pressure being put on the wrist. Good computer workstation design can alleviate some of the symptoms, or can slow their progression once begun. At best, good computer workstations can prevent the disease from beginning. Many tools are now on the market to try and reduce the occurrence of this disease, although consultation with an expert is advised prior to purchasing them.

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011

11. LAB SAFETY

All students must read and understand the information in this document with regard to laboratory safety and emergency procedures prior to the first laboratory session. Your personal laboratory safety depends mostly on YOU. Effort has been made to address situations that may pose a hazard in the lab but the information and instructions provided cannot be considered all-inclusive.

Students must adhere to written and verbal safety instructions throughout the academic term. Since additional instructions may be given at the beginning of laboratory sessions, it is important that all students arrive at each session on time.

With good judgement, the chance of an accident in this course is very small. Nevertheless, research and teaching workplaces (labs, shops, etc.) are full of potential hazards that can cause serious injury and or damage to the equipment. Working alone and unsupervised in laboratories is forbidden if you are working with hazardous substances or equipment. With prior approval, at least two people should be present so that one can shut down equipment and call for help in the event of an emergency.

Safety training and/or information should be provided by a faculty member, teaching assistant, lab instructor, or staff member at the beginning of a new assignment or when a new hazard is introduced into the workplace.

Emergency Response

It is your responsibility to read safety and fire alarm posters and follow the instructions during an emergency.

Know the location of the fire extinguisher, eye wash, and safety shower in your lab and know how to use them.

Notify your instructor immediately after any injury, fire or explosion, or spill.

Know the building evacuation procedures

Common Sense

Good common sense is needed for safety in a laboratory. It is expected that each student will work in a responsible manner and exercise good judgement and common sense. If at any time you are not sure how to handle a particular situation, ask your Teaching Assistant or Instructor for advice. **DO NOT TOUCH ANYTHING WITH WHICH YOU ARE NOT COMPLETELY FAMILIAR!!!** It is always better to ask questions than to risk harm to yourself or damage to the equipment.

Personal and General Laboratory Safety

- Never eat, drink, or smoke while working in the laboratory.
- Read labels carefully.
- Do not use any equipment unless you are trained and approved as a user by your supervisor.
- Do not use fume hood unless an up-to-date certification sticker has been applied. Stickers of successful certification shall be affixed in clear view on each of the fume hoods by an outside contractor.
- Wear safety glasses or face shields when working with hazardous materials and/or equipment.
- Wear gloves when using any hazardous or toxic agent.
- Clothing: When handling dangerous substances, wear gloves, laboratory coats, and safety shield or glasses. Shorts and sandals should not be worn in the lab at any time. Shoes are required when working in the machine shops.
- If you have long hair or loose clothes, make sure it is tied back or confined.
- Keep the work area clear of all materials except those needed for your work. Coats should be hung in the hall or placed in a locker. Extra books, purses, etc. should be kept away from equipment that requires airflow or ventilation to prevent overheating.
- Disposal - Students are responsible for the proper disposal of used material if any in appropriate containers.
- Equipment Failure - If a piece of equipment fails while being used, report it immediately to your lab assistant or tutor. Never try to fix the problem yourself because you could harm yourself and others.
- If leaving a lab unattended, turn off all ignition sources and lock the doors.
- Never pipette anything by mouth.
- Clean up your work area before leaving.
- Wash hands before leaving the lab and before eating.

Policy implementation date:	2005
Revised:	October 2008
Next Review:	October 2011