INTRODUCTION
The laboratory is a workplace that contains many potential hazards which may include chemical, biological and physical agents. The University of Toronto is committed to protecting the health and safety of its faculty, staff, students and visitors, in accordance with its Health and Safety Policy and its responsibilities under the Occupational Health and Safety Act of Ontario.

The Laboratory Safety Program is intended to assist the University in minimizing the risks associated with activities in the laboratory. The Laboratory Health and Safety Manual is a key component of the laboratory safety program at the University of Toronto Scarborough. The purpose of this manual is to assist laboratory personnel in the identification and control of hazards in the laboratory.

This manual will focus on topics related to general laboratory and chemical safety and should be used in conjunction with any applicable University and/or Departmental programs, standards and procedures.

SCOPE
The laboratory safety program applies to all activities in the laboratory where there exists the potential for personal injury or property damage and to all those identified as laboratory supervisors/principal investigators and laboratory workers at the University of Toronto Scarborough.

HEALTH AND SAFETY POLICY
The University of Toronto Health and Safety Policy reflects the University's commitment to maintaining a safe and healthy environment for its faculty, staff, students and visitors.

CAMPUS SAFETY & SECURITY & OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY
The Department of Campus Safety & Security (CSS) and the Office of Environmental Health and Safety (EHS) are resources for the University of Toronto Scarborough community including employees, students and visitors to the campus. CSS & EHS provides a broad range of health and safety services to ensure that an environmentally responsible, safe and healthy work, research and study environment exists at the University of Toronto. For more information, go to http://www.utsc.utoronto.ca/~bao/safety_security and www.ehs.utoronto.ca.
University of Toronto Health and Safety Policy

INTRODUCTION AND RESPONSIBILITIES

University of Toronto
Health and Safety Policy

The University of Toronto is committed to the promotion of the health, safety and wellbeing of all members of the University community, to the provision of a safe and healthy work and study environment, and to the prevention of occupational injuries and illnesses.

The Governing Council, the President and all levels of management will work in consultation and cooperation with University employees, joint health and safety committees, students, contractors and visitors to ensure that the requirements of the Occupational Health and Safety Act and its regulations, other applicable legislation, and the University’s Occupational Health and Safety Management System are fully implemented and integrated into all University work and study activities.

Where reasonable, the University will strive to exceed the legislated requirements by adopting the best practices available to protect the University community and to promote a positive health and safety culture. The University will work towards continuous improvement in its health and safety program.

Managers and supervisors, whether academic or administrative, will take responsibility and accountability for the health and safety of those individuals under their direction and those workplaces under their charge. They will advise their employees of the existence of potential or actual workplace hazards, and will ensure that they work safely and in accordance with the Occupational Health and Safety Act and its regulations, and all applicable University policies and procedures. They will take every precaution reasonable in the circumstances for the protection of their employees.

All University employees, including faculty, librarians, and non-university and unionized employees, have some responsibility for ensuring health and safety in the workplace. Employees will work safely and in compliance with the Occupational Health and Safety Act and its regulations, and University policies and procedures. Employees will report all unsafe and unhealthy conditions and practices in the workplace to their immediate supervisors so that they may be promptly remedied.

Contractors, tenants and visitors at the University will comply with all relevant legislation, as well as University of Toronto policies and procedures.

While students are not covered by the Occupational Health and Safety Act, the University is also committed to ensuring that health and safety is considered in all aspects of student life. Students are responsible for conducting themselves in a safe manner, and are required to comply with all relevant legislation, University policies and procedures.

The University’s Policy for Safety in Field Research addresses health and safety responsibilities for faculty, staff and students engaged in field research beyond their geographical boundaries of the University.

Individuals who fail to meet their obligations concerning health and safety may, depending on the circumstances, face appropriate disciplinary action, up to and including discharge.

All members of the University community are expected to demonstrate their commitment towards a safe and healthy work and study environment by acting in compliance with this Policy.

Angela Hildyard
Vice-President
Human Resources and Equity

May 31, 2011
RESPONSIBILITIES
All University employees are responsible for ensuring a safe and healthy work environment. Managers and supervisors, whether academic or administrative, are responsible and accountable for the health and safety of the individuals under their direction and the workplace under their supervision.

Department Chair
The Department Chair is responsible for:
1. Overseeing the laboratory safety program within the Department and ensuring all components are implemented.
2. Identifying all laboratory supervisors and ensuring they clearly understand and adhere to their duties and responsibilities under the laboratory safety program.

Laboratory Supervisor/Principal Investigator (PI)
Laboratory supervisors and principal investigators are responsible for providing a safe work environment for individuals under their supervision. The Laboratory Supervisor/Principal Investigator is responsible for:
1. Taking every reasonable precaution to protect and promote the health and safety of individuals reporting directly and indirectly to them and other individuals who have access to the laboratory spaces they manage or supervise.
2. Being familiar with the Occupational Health and Safety Act and its regulations as well as any applicable University programs, standards, and procedures.
3. Advising all laboratory personnel of potential or actual workplace hazards and developing and implementing controls to address these hazards.
4. Ensuring all laboratory personnel work safely in accordance with the Occupational Health and Safety Act and its regulations, and all applicable University programs, standards, and procedures.
5. Ensuring all laboratory personnel receive appropriate training to work safely with hazardous materials and maintain training records.
6. Ensuring all laboratory personnel understand their responsibilities as outlined in the laboratory safety program.
7. Providing health and safety information, including Material Safety Data Sheets for hazardous substances, applicable standard operating procedures (SOPs) used in the laboratory, emergency procedures, etc. for all laboratory personnel.
8. Providing, maintaining, and enforcing the use of appropriate personal protective equipment (e.g. lab coats, gloves, eye protection, etc) where there is the potential for exposure to or contact with chemical, biological or physical agents.
9. Ensuring appropriate safety equipment such as fume hoods, eyewash stations, safety showers, fire extinguishers, etc. are accessible, operable, and well maintained.
10. Promptly notifying Facilities Management & Planning when engineering controls (e.g. fume hoods) and safety equipment (e.g. emergency showers, eyewash stations, fire extinguishers, etc.) become non-operational.
11. Conducting regular inspections of the laboratory and maintaining records of these inspections.
12. Posting appropriate warning signs and emergency contact information in the laboratory.
13. Maintaining and updating chemical and hazardous material inventory for the laboratory.
14. Ensuring proper disposal of hazardous wastes.
15. Promptly reporting laboratory accidents. All accidents and incidents should be investigated by the laboratory supervisor.
16. Informing non-laboratory personnel (e.g., Facilities) and any outside contractor of potential lab-related hazards.
17. Being aware of all experimental work taking place in their laboratories.

Laboratory Personnel
Laboratory personnel are responsible for conducting activities in a manner which will not endanger themselves or others. All laboratory personnel are responsible for:

1. Working safely in accordance with the procedures and safe work practices outlined in the laboratory safety program and other applicable University and/or Departmental programs, standards, and procedures.
2. Participating in appropriate health and safety training sessions and providing written documentation to the laboratory supervisor.
3. Promptly reporting accidents and unsafe conditions and practices to the laboratory supervisor.
4. Reviewing and understanding the hazards of materials and processes in their laboratory prior to conducting work.
5. Utilizing appropriate measures to control identified hazards including consistent and proper use of engineering controls, administrative controls, and personal protective equipment.
6. Consulting with the laboratory supervisor before using high hazard materials or conducting higher risk experimental procedures.
7. Refraining from any activity that may endanger the health and safety of themselves or any other person in the laboratory (e.g. horseplay).

UTSC Campus Safety & Security
The Department of Campus Safety & Security is responsible for:

1. Overseeing the implementation of the laboratory safety program at the University of Toronto Scarborough.
2. Providing training, technical advice and recommendations to the University of Toronto Scarborough on matters related to health and safety in the laboratory.
3. Conducting periodic inspections and addressing any immediate hazards that may pose a health and safety risk.
4. Providing assistance and technical consultation during laboratory accident investigations.
5. Reviewing and auditing the effectiveness of the University of Toronto Scarborough laboratory safety program on an on-going basis.
Office of Environmental Health and Safety

The Office of Environmental Health and Safety is responsible for:

6. Overseeing the implementation of the laboratory safety program at the University of Toronto.

7. Providing training, technical advice and recommendations to the University of Toronto Scarborough on matters related to health and safety in the laboratory.

8. Conducting periodic inspections and addressing any immediate hazards that may pose a health and safety risk.


10. Reviewing and auditing the effectiveness of the University of Toronto Scarborough laboratory safety program on an on-going basis.
INTRODUCTION AND RESPONSIBILITIES

OCCUPATIONAL HEALTH AND SAFETY ACT
The Occupational Health and Safety Act (OHSA) of Ontario is the primary legislation governing workplace health and safety. The Act outlines the duties and responsibilities of all workplace parties and sets minimum requirements for safe practices when dealing with workplace hazards. Supervisors and workers should be familiar with the main provisions of the Act and the regulations that apply to their specific workplaces.

The Act is based on the principle of the Internal Responsibility System, where every individual is responsible for health and safety in the workplace. The Act relies on this joint co-operation between workplace parties in identifying and developing solutions for health and safety concerns. The fundamental basis for any safety program is the general duty in the Act for an employer to “take every precaution reasonable in the circumstances for the protection of a worker”.

The Ontario Ministry of Labour (MOL) enforces the Act and its regulations. A MOL inspector may enter and inspect the premises of the University at any time. These inspections may be carried out for a number of reasons, including random checks, requests to resolve internal health and safety concerns, work refusals, or accident investigations.

UTSC JOINT HEALTH AND SAFETY COMMITTEE
The UTSC Joint Health and Safety Committee (JHSC) is an advisory body made up of worker and management representatives, with at least half of the members being workers. The committee meets on a regular basis to discuss health and safety concerns. The main functions of the JHSC are to:
   (a) Identify workplace health and safety hazards.
   (b) Conduct regular workplace inspections.
   (c) Recommend to management how to improve health and safety in the workplace.
   (d) Investigate serious accidents and work refusals.

All UTSC employees should be aware of the UTSC JHSC and the member(s) who represent them. Information regarding committee membership and meeting minutes are posted on various health and safety bulletins located throughout the campus. For more information on the UTSC JHSC, go to: http://www.utsc.utoronto.ca/~bao/safety_security/health_safety.html.

RIGHTS OF WORKERS
Employees have the following Rights under the Act:
   ▪ The right to participate in matters relating to workplace health and safety, either individually or through the health and safety committee.
   ▪ The right to know about the hazards in the workplace. The supervisor is responsible for informing workers about these hazards and how to work safely with them.
   ▪ The right to refuse unsafe work.
**BIOSAFETY PROGRAM**

The University of Toronto Biosafety Program is designed to protect laboratory personnel and the public from potential exposure to infectious agents. The program includes a number of components such as determining laboratory containment requirements (physical and operational controls), medical surveillance (including immunization where appropriate), classroom and online training, and compliance with regulatory requirements for importing and shipping biological agents.

Overall control of the program is through the University’s Institutional Biosafety Committee with administrative and technical support provided by the Biosafety group in the Office of Environmental Health and Safety.

The UofT Biosafety Policies and Procedures describe the requirements and procedures established by the University for work with biological agents. All work conducted by University members with biological agents on University premises or under the control of the University must be performed in accordance with the applicable policies and procedures.

- For more information, go to: [http://www.ehs.utoronto.ca/services/biosafety.htm](http://www.ehs.utoronto.ca/services/biosafety.htm) or contact the UTSC local biosafety coordinator: [http://www.ehs.utoronto.ca/services/biosafety/biocoord.htm](http://www.ehs.utoronto.ca/services/biosafety/biocoord.htm).

**RADIATION SAFETY PROGRAM**

The University of Toronto is committed to ensure that the use of radioactive materials at the University is carried out in a safe manner with due regard for employees, students, the public, and the environment. The University is also committed to ensure the security of radioactive materials.

The University of Toronto Radiation Protection Authority (UTRPA) is responsible for ensuring an effective radiation safety program. The Radiation Protection Services group in the Office of Environmental Health and Safety is responsible for the administration of the program. Through Radiation Protection Service (RPS), the UTRPA controls all purchases of radioactive material as well as governing the conditions under which it will be used.

The Radiation Safety Policies and Procedures describe the requirements and procedures established by the University for work with radioactive materials. All work conducted by University members using radioactive materials on University premises or under the control of the University must be performed in accordance with the applicable policies and procedures.

For more information, go to: [http://www.ehs.utoronto.ca/services/radiation.htm](http://www.ehs.utoronto.ca/services/radiation.htm) or contact the UTSC local Radiation Protection Authority Member: [http://www.ehs.utoronto.ca/services/radiation/utrpamem.htm](http://www.ehs.utoronto.ca/services/radiation/utrpamem.htm).
LASER SAFETY PROGRAM
The Laser Safety Program is intended to assist the University community in the effective control of laser hazards. This program applies to all Class 3B and Class 4 laser systems in controlled areas under the jurisdiction of the University of Toronto, and to all those identified as principal investigators, laser supervisors and laser workers. The basic elements of the control program are:

- Registration of all Class 3B and Class 4 laser/laser systems;
- Requirement of inspections of Class 3B and Class 4 laser/laser systems;
- Requirement for training and education of laser workers;
- Requirement for reporting accidents/incidents involving all 3B and Class 4 laser/laser systems;
- Provision of medical surveillance;
- Requirement for personal protective equipment;
- Requirement for engineering controls;
- Requirement for administrative and procedural controls;
- Requirement for auditing the implementation and effectiveness of the program.

For more information, go to: http://www.ehs.utoronto.ca/services/lasergs/laserhome.htm

X-RAY SAFETY PROGRAM
The X-ray Safety Program is intended to assist the University community in the effective control of X-ray hazards. This program applies to all X-ray machines and X-ray sources in controlled areas under the jurisdiction of the University of Toronto, and to all those identified as Principal Investigators, X-ray sources supervisors and X-ray sources workers. The basic elements of the control program are:

- X-ray permit system;
- Registration of all X-ray machine and X-ray sources;
- Requirements for the inspections of X-ray machines and X-ray sources;
- Requirements for training and education of X-ray workers;
- Requirements for reporting accidents/incidents involving X-ray machines and X-ray workers;
- Requirements for personal dosimetry;
- Requirements for engineering controls;
- Requirements for administrative and procedural controls;
- Requirements for auditing the implementation and effectiveness of the program.

For more information, go to: http://www.ehs.utoronto.ca/services/radiation/X-ray_safety.htm

ELECTRIC AND MAGNETIC FIELD (EMF) SAFETY PROGRAM
Static electric and magnetic fields, as well as variable electromagnetic fields are used extensively at the University of Toronto, primarily for research and telecommunication.
The University of Toronto is committed to ensure that the use of static electric and magnetic fields and variable electromagnetic fields at the University is carried out in a safe manner with due regard for employees, students, the public and the environment.

For more information, go to:

ULTRAVIOLET RADIATION SAFETY PROGRAM
The safe use of coherent UV light is covered in the University of Toronto Laser Safety Program. The safe use of non-coherent artificial UV radiation sources in buildings under the authority of the University of Toronto will be covered by the Ultraviolet Radiation Safety Program.

The University of Toronto is committed to ensuring that the use of UV radiation sources is carried out in a safe manner with due regard for employees, students, the public, and the environment.

For more information, go to: