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INTRODUCTION
Research – by its very nature – is inherently risky. Boundaries are pushed, with new theories and discoveries tested. As a result, individuals who conduct experiments and processes must have a solid foundation in hazard identification and risk assessment to safeguard the health and safety of those directly and indirectly involved in this work.

The word “safe” is, at times, incorrectly interpreted as freedom from risk or consequence. Hazards can be eliminated, and a thing or process can be made safer, but as long as a hazard exists, risk – no matter how unlikely a scenario – perpetually remains. Mitigation and control measures may bring risk down to a level that is considered tolerable and acceptable; however, it is not possible (or realistic) to reach a zero level of risk. It is incumbent on those responsible for research or operational work to ensure that before the work begins, the process has been reasonably evaluated for risks and the supervisor has exercised due diligence in assigning the work.

For example, imagine a pedestrian waiting to cross a busy intersection. Traffic lights regulate traffic flow and a red light means that drivers must stop. The hazard to the pedestrian is managed by the presence of the traffic light, driver licencing, motor vehicle requirements, and the Highway Traffic Act, all of which are risk controls that allow the pedestrian to safely cross the street when facing a green light. But what if a driver does not stop at the red light? Any pedestrian crossing the street is at risk of a vehicle not stopping. This scenario is not likely to occur, given the risk controls in place, but it is still possible. And given the consequences of being hit by a car, the pedestrian must account for a potential failure of the risk controls. Therefore, the pedestrian will probably look both ways before crossing the street and act accordingly.

A risk assessment need not be complex; however, in the context of due diligence, a formal and documented risk assessment will better ensure that everyone involved in the project or task understands the hazards and risks, and how to safely and reasonably control them.

OBJECTIVE
The purpose of this document is to provide a framework for supervisors to identify hazards and evaluate risks within the scope of their responsibilities to prevent or reduce the frequency and severity of occupational injuries and illnesses through an appropriate hierarchy of hazard control and risk mitigation measures.

The document will outline the differences between a hazard and a risk. It is important to note that the presence of a hazard means that a risk exists. Where a hazard exists that cannot be eliminated, risk controls are required.

This document was developed with CSA Z1002-12 – Occupational Health and Safety – Hazard Identification and Elimination and Risk Assessment and Control as a primary reference point.

DEFINITIONS
Adapted from CSA Z1002-12 – Occupational health and safety – Hazard identification and elimination and risk assessment and control.

Competent person – means a person who,
a) Is qualified because of knowledge, training, and experience to organize the work and its performance;
b) Is familiar with this Act and the regulations that apply to the work; and
c) Has knowledge of any potential or actual danger to health or safety in the workplace.

**Dangerous circumstances** – means a situation in which,
  a) a provision of the *Occupational Health and Safety Act* or related regulations is contravened;
b) the contravention poses a danger or a hazard to a worker; and
c) the danger or hazard is such that any delay in controlling it may seriously endanger a worker.

**Hazard** – the inherent property of something that may be a potential source of harm to a worker.

**Hazard identification** – the process of finding, listing, and characterizing hazards.

**Risk** – the combination of the likelihood of the occurrence of harm and the severity of that harm, commonly expressed as Risk = Likelihood x Consequence

**Risk analysis** – a process for comprehending the nature of hazards and determining the level of risk

**Risk assessment** – the overall process of hazard identification, risk analysis, and risk evaluation

**Risk estimation** – a process used to assign values to the likelihood and consequences of a risk

**Risk evaluation** – the process of comparing an estimated risk against given risk criteria to determine the significance of the risk

**Supervisor** – means a person who has charge of a workplace or authority over a worker or another person. Depending on the workplace relationship, a supervisor may include the president, vice-presidents, directors, deans, managers or principle investigators. The determination as to whether a person is a supervisor does not depend on that person’s job title; rather it depends on whether the person is responsible for a location (for example, an office or laboratory) where the work is performed on a paid or unpaid basis or whether the person gives direction to complete the work performed by workers, students, visitors, volunteers or learners.

**Worker** – means any of the following:
- A person who performs work or supplies services for monetary compensation. This means a University employee and includes a person who performs work or supplies services for monetary compensation. Students hired by the University to perform paid work-study program duties or co-operative education placement duties for the University are considered workers
- A high school student who performs work or supplies services for no monetary compensation under a work experience program authorized by the school board that operates the school in which the student is enrolled
- A person who performs work or supplies services for no monetary compensation under a program approved by a college of applied arts and technology, university or other post-secondary institution.
• Such other persons as may be prescribed who perform work or supply services to an employer for no monetary compensation.

**RESPONSIBILITIES**

Through **Procedure 14-1 – Internal Responsibility Procedure for Health and Safety Issues**, the University of Ottawa has established a framework for all members of the uOttawa community, most notably officers, directors, supervisors, professors, workers, students, visitors, volunteers, and learners. Contractors hired by the University are also expected to observe and comply with this procedure, where warranted.

**Supervisors**

A supervisor has several legal obligations under applicable health and safety legislation, including: ensuring that workers comply with the *Occupational Health and Safety Act*; informing workers about hazards; and providing instruction on preventative procedures. The list below summarizes some of the supervisor’s legal duties. In accordance with Procedure 14-1, supervisors must:

a) **stay informed of the health and safety needs of workers under their authority;**

b) **initiate the necessary preventive measures to control health and safety hazards associated with activities under their authority;**

c) **incorporate preventive measures into all functions and activities that present a risk of some incident or accident with health-related consequences;**

d) **ensure that workers under their authority work in the required manner, and with the protective devices, measures, and procedures required under the applicable health and safety legislation;**

e) **ensure the safety of people or workplace areas under their authority;**

f) **before commencing new work or a new task, ensure that health and safety orientation, instruction, and information are provided by a competent person to people under their authority;**

g) **ensure that workers under their authority use or wear the equipment, protective devices, or clothing required;**

h) **ensure that mandatory safety training is provided by a competent person to people under their authority prior to conducting the task;**

i) **provide safety training opportunities for all their staff or people under their responsibility;**

j) **where health and safety-related training has been provided, maintain an updated list of all those who have received the training, the name(s) of the person(s) who provided the training, the date on which the training was given, and the type of training provided;**

k) **monitor the safety performance of their workers;**

l) **provide assistance and co-operation to the respective members of the health and safety committee in carrying out their functions as stipulated in the terms of reference under which they must act;**

m) **report accidents and incidents according to the internal procedure;**

n) **ensure that fatalities, serious injuries, and critical injuries are immediately reported to Protection Services;**

o) **with the assistance of Protection Services, ensure that the scene of an accident where a fatality, serious injury, or critical injury has taken place is preserved such that there is no interference, disturbance, destruction, alteration or removal of anything at the scene until an investigation is conducted and the Office of Risk Management authorizes the cleaning or moving of evidence from the scene;**
ensure that Protection Services and/or a designated first-aid responder are contacted immediately for assistance in providing first aid to injured persons;

investigate all accidents and incidents to ensure that appropriate and necessary action is taken;

immediately investigate any work refusal process;

ensure that telephones for emergencies are in working order and accessible in University laboratories that are at increased risk due to the presence or use of hazardous materials in quantities capable of causing injury, or where the type of activity performed is at a level where there is a risk of injury, or where a room is isolated from public areas and there is limited access to a telephone;

where they have hired an external contractor, require that the external contractor adhere to applicable health and safety legislation;

where they have engaged visitors, volunteers, or learners, monitor to ensure that such visitors, volunteers, or learners adhere to applicable health and safety legislation.

In the context of this document, the competent supervisor is the person primarily responsible for identifying and documenting hazards, assessing the risks involved in the work task, and implementing controls. The competent supervisor is responsible for communicating the results of their hazard identification and risk assessment in a clear, formal, and straightforward manner to the worker(s). The competent supervisor must then monitor and reassess the hazard identification and risk assessment when new information becomes available that affects the work and not less frequently than annually.

Workers
Workers are also responsible for health and safety when performing their duties. In accordance with Procedure 14-1, workers must:

a) work in compliance with the provisions of the applicable health and safety legislation and all health and safety procedures and practices that are made known to them;

b) use or wear equipment, protective devices, or clothing as required by the University, and report to their supervisor the absence of, or defect in, any equipment or protective device that may endanger themselves or other workers;

c) report all known health and safety hazards or any violation of the applicable health and safety legislation or University procedures to their supervisor;

d) not use or operate any equipment, machine, device, item or work method in a manner that endangers themselves or other workers;

e) not remove or make ineffective any protective device required by the applicable health and safety legislation or by University procedure, without providing an adequate temporary protective device. Once the temporary protective device is no longer required, the original protective device must be reinstalled immediately;

f) not engage in any prank, contest, feat of strength, unnecessary running, or rough and boisterous conduct, or otherwise endanger their co-workers or themselves;

report accidents and incidents to their supervisor, and complete and submit the University Accident, Incident, Occupational Disease or Near Miss form to Human Resources and to the Office of Risk Management;

h) attend mandatory safety training sessions related to their work environment.

In the context of this document, a worker has the duty to report known hazards to their supervisor and comply with the results of the risk assessment process conducted by the supervisor. A worker
has a right to refuse work if there is reason to believe that their working conditions endanger them or another worker.

HAZARDS
The first step in assessing risk is to identify the hazards. The process to identify hazards must consider the reasonably foreseeable hazards or situations related to the process being assessed that may cause harm to a worker. Hazards may originate from any of the following hazard categories, or any combination of thereof:

- Chemical – Conditions that can lead to contamination by harmful or potentially harmful substances. Examples include toxic gases, noxious fumes, corrosive liquids or powders, etc.
- Biological – Conditions where living organisms can pose a threat to human health. Examples include syringes carrying potentially infected blood, specimen containers with potentially infected materials, viruses spread by HVAC systems, etc.
- Physical – Conditions in which objects, materials, or structures can cause material or bodily harm. Examples include objects or substances that are explosive, noisy, conduct electricity (shock), or hazardous environments involving extreme hot or cold, radiation, slippery surfaces, low ceilings, etc.
- Biomechanical – Conditions that cause biomechanical (body and movement) stress on workers. Examples include workbench height, chair design, workstation set-up, etc.
- Psychosocial – Conditions that can affect the thoughts, behaviour, and mental well-being of workers. Examples include stress from using equipment without proper training or instruction, or from being coerced into using defective tools or materials; burnout or depression from constant exposure to high-stress situations, etc.

Once hazards have been identified, the preferred means of control is to eliminate the hazard. Only once hazards have been identified can action be taken to eliminate them. For hazards identified as part of a risk assessment, it is assumed that the hazards (or a combination of hazards, interaction with other hazards, etc.) will cause harm if control measures are not implemented to eliminate or otherwise control the hazard. When a hazard cannot be immediately eliminated, interim controls shall be implemented until the risk assessment is complete and permanent controls implemented.

RISK ASSESSMENT
There are varying levels of risk assessment, from preliminary to detailed. People conduct risk assessments every day, even though they may not be consciously aware of doing so (e.g. pedestrians crossing the street).

Before beginning a risk assessment, the supervisor must establish the proper context, including:

- Scope – the extent or lifecycle of the thing, process, or operation, including the physical work area and the types of hazards assessed
- Parameters – the scales used to assess the process, such as:
  - Frequency of occurrence (e.g. rare/unlikely/possible/likely/certain)
  - Severity of occurrence (e.g. insignificant/minor/moderate/major/catastrophic)
- Stakeholders – those involved in the risk assessment, including those who are internal and external to the process.
• Risk criteria – a definition of the situations that require further risk reduction to improve worker protection. The criteria must be derived from applicable legislation and include input from the relevant stakeholders.

Whether as part of a structured program or conducted informally, a risk assessment will follow a process, namely:
• Identification of hazard(s);
• Elimination of hazard(s);
• Analysis of risks of the remaining hazard(s);
• Evaluation of risks of the remaining hazard(s).

Hazard Identification
The core element of the risk assessment process is the identification of things or processes that can cause harm. The identification of hazards must consider reasonably foreseeable hazards that have the potential to cause harm to a worker. This includes all aspects of operations, including the physical components of equipment, the surrounding environment, foreseeable human factors (including misuse), cognitive limitations on the use of equipment or execution of the process, and all relevant phases of the process and/or operation. Sources of hazards may originate from any of the hazard categories listed above.

When identifying hazards, the assessor (i.e., the supervisor) must account for how a particular hazard may potentially harm a worker. For example, some of the factors that affect the degree of hazard are:
• Amount (e.g. volume, concentration, intensity, etc.) of the hazard that can cause harm
• Route of entry (e.g. inhalation, absorption, ingestion, injection)
• Frequency and duration of exposure
• Manner of interaction

The supervisor may also identify hazards by combing through existing records (such as past incident reports), interviewing or observing employees, collecting workplace samples (e.g. direct, air, etc.), and other scientific data (e.g. safety data sheets).

The supervisor must also consider the potential combination of hazards and how they might interact and affect each other, which may create an entirely different hazard (e.g. A + B = C rather than A + B = AB).

The Office of Risk Management can provide supervisors with additional hazard criteria listed in Annex B of CSA Z1002-12 – Occupational Health and Safety – Hazard Identification and Elimination and Risk Assessment and Control.

Hazard Elimination
For the purposes of a risk assessment, a supervisor assumes that when the hazard, or combination of hazards, is present, harm to a worker will occur if measures are not taken to eliminate or further control the hazard(s). While the supervisor should strive to eliminate hazards to provide the greatest level of protection from harm, this is not always possible or reasonable; therefore, hazard controls should follow a hierarchy until risk is reduced to an acceptable level.
The level of acceptable risk is determined by analysing, then evaluating, risks. From this evaluation, the supervisor can identify and then apply the appropriate controls to mitigate the hazard. Figure 1 depicts the hierarchy of hazard controls. Note that although hazard elimination is ideal, it may not be feasible; a lower level of control may be acceptable given the nature of the work and risk involved.

![Figure 1 - Hierarchy of Hazard Control](image)

**Risk analysis**

Risk analysis is the process of developing an understanding of the risk that helps to improve and focus the evaluation of the risk. The supervisor will probably identify multiple hazards; therefore, the risk of harm should be prioritized, namely by identifying the risks that have the greatest potential for harm, that are likely to occur most frequently, etc. The supervisor should always prioritize action on situations involving dangerous circumstances, with work suspended until interim (or permanent) controls can be implemented.

The risk analysis should include:

- a description of the hazard or the hazardous situation;
- the methods of interaction, including the circumstances under which interaction with the hazard can occur. The supervisor can determine this by reviewing anticipated worker tasks, procedures, incident history, conducting observation tours, consulting with operators and other workers, etc.;
- the frequency and conditions of exposure to the hazard;
- the duration of exposure to the hazard; and
- the severity of a potential exposure.

Use the following scales to quantify frequency and severity, and thus reduce the subjective nature of the estimate.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Value</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost certain</td>
<td>5</td>
<td>Anticipated to occur <em>often</em> during entire project.</td>
</tr>
<tr>
<td>Likely</td>
<td>4</td>
<td>Anticipated to occur <em>several times</em> during entire project.</td>
</tr>
<tr>
<td>Possible</td>
<td>3</td>
<td>Reasonably anticipated to occur <em>at some time</em> during entire project.</td>
</tr>
<tr>
<td>Unlikely</td>
<td>2</td>
<td>Not anticipated to occur during entire project but <em>possible</em>.</td>
</tr>
<tr>
<td>Rare</td>
<td>1</td>
<td><em>Not anticipated</em> during entire project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Severity</th>
<th>Value</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

uOttawa
Hazard Identification and Risk Assessment
v1 – January 2020
Severity | Value | Descriptor
--- | --- | ---
Catastrophic | 5 | Results in death, total loss or shutdown of system, significant release into the environment affecting the public or regulatory intervention.
Major | 4 | Results in permanent impairment, serious lost-time injury, loss or shutdown of part of system, large on-site release into environment.
Moderate | 3 | Short-term lost-time injury, short-term interruption in use of system, recoverable release into environment.
Minor | 2 | Minor injury, minor damage to system, minor confined release into the environment.
Insignificant | 1 | Very minor injury, with consequence less serious than Minor.

Risk level is assessed as frequency x severity; therefore, if a risk is likely (4) to occur and would result in major (4) consequences, that would yield a risk level of 16. The risk matrix below places this on the high end of the risk scale, meaning that further risk control is probably required. The greater the risk level, the greater the attention required to address the issue.

<table>
<thead>
<tr>
<th>Severity</th>
<th>Insignificant (1)</th>
<th>Unlikely (2)</th>
<th>Possible (3)</th>
<th>Likely (4)</th>
<th>Certain (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rare (1)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Unlikely (2)</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Possible (3)</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Likely (4)</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Certain (5)</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 1 - Risk Matrix

Risk Evaluation
Once risks have been analyzed and estimated, the supervisor can conduct a risk evaluation. The risk evaluation aims to formalize decisions about whether a particular work activity should be conducted, which risks needs to be further controlled, and the priority for addressing risks. The treatment of risks may fit into one of four categories:

- Avoidance – taking action to exit (or avoid) the activity that gives rise to the risk(s).
- Reduction – reducing the risk probability, consequence, or both.
- Transfer – reducing risk probability or consequence by transferring or sharing a portion of the risk.
- Acceptance – taking no action to affect probability or consequence.

Risk Control
Risk control actions follow a hierarchy, with the elimination of the hazard to the reasonable extent possible being the most preferred. If the hazard does not exist, it cannot cause harm. Where the removal of the hazard is not possible, substitution of the hazard with a less-hazardous alternative is the next best option.

Although eliminating the hazard is desirable, it is understood that work may need to involve hazardous materials or hazardous conditions; therefore, hazard elimination and substitution are not always feasible or realistic. Nonetheless, hazard controls still follow a hierarchy (see Figure 1).
**Engineering controls**, or controls implemented at the source of the hazard, are the next most desirable and are typically the next most effective, as they usually do not require further intervention by the end user; the control exists indefinitely. Some examples of engineering controls include lockout devices, dual operation controls, fume hoods, etc.

If the implementation of engineering controls is not feasible or practical, the next-most-desirable control measures are **administrative controls**. In other words, the way the work is conducted is augmented or modified to reduce the extent of the hazard or exposure to it. Some examples of administrative controls include reducing the time that a worker is exposed to the hazard, changing the work practices, training programs, etc.

If none of the above hazard control options can be implemented, **personal protective equipment** (PPE) is a reasonable hazard control option. Remember that PPE does not actually remove or reduce the hazard – it only protects against the hazard for those individuals wearing properly selected and fitted PPE. As a result, PPE is the least-desired control method, although it can still be effective. Some examples of personal protective equipment are hearing protection, protective eyewear, fall arrest harnesses, respiratory protection, and protective footwear. Figure 1 illustrates the hierarchy of hazard control.

A combination of hazard control measures may be required to achieve a reasonable level of worker protection. For example, a worker conducting work inside a fume hood may also be required to wear respiratory protection due to the acute toxicity of a certain hazardous substance. Regardless of the hazard control measure proposed, it must be reasonable: that is, the recommendations are not excessive or do not address every single potential, tangential situation.

It should be noted that hazard controls have the potential to fail – even under properly designed and implemented processes – or may even introduce new hazards. If the hazard control fails, it will be less effective in reducing the frequency and/or severity of harm. When selecting risk controls, the failure or deterioration of hazard controls must be considered along with the possibility that the failure may introduce new hazards. Supervisors must regularly assess the effectiveness of hazard controls to ensure that they remain effective.

**TOOLS**
Supervisors have tools at their disposal to help them identify hazards and assess risks.

**Job Safety Analysis (JSA)**
A job safety analysis is a process that reviews job methods and uncovers hazards that may have been overlooked in the design and layout of a facility or building, and in the design of the machinery, equipment, tools, workstations, and processes. Additionally, hazards may have been created or developed after production, occupancy, or may have resulted and evolved from changes in work practices or personnel.¹ The major benefit of the JSA comes once it is complete: it clearly outlines the hazards and control measures of the activity.

The JSA provides supervisors with an opportunity to review work practices and the individual tasks conducted by those they supervise. Workers are encouraged to participate in the JSA process. For new personnel, there is no better guide for training than a well-prepared JSA.

A JSA involves the following steps:

- **Selecting the job.** Activities selected for a JSA are typically broad and encompass a multitude of steps or sequences that come together as part of a larger goal. Narrowly defined tasks are generally not suitable for a JSA. The job(s) selected should be those with potential for injury – either documented or speculative. Examples of factors to guide job selection include those that feature injury frequency (including no-lost time occurrences), potential incident severity, new processes, etc.

- **Breaking the job down into steps.** Once the job is selected, the job is broken down into a sequence of steps required to accomplish the goal. Each step describes the work done and is most often reviewed by an experienced and competent worker. The focus at this stage should be on what is done, not how it is done.

- **Identifying hazards and potential incident causes.** After listing the activity sequence, the supervisor identifies hazards, including those directly related to the work and those related to the environment. The common question that should be asked at this stage is “can an injury occur”? If there is a hazard, the hazard category (e.g. contact with XYZ, exposure to ABC, etc.) should be documented. Once completed, the supervisor should revisit the hazards with the worker who was observed, as well as other personnel performing or familiar with the task, to ensure an accurate recording of the task.

- **Developing solutions and implementing corrective actions.** The last step of a JSA is to develop hazard control measures to eliminate or mitigate the hazards. Examples of controls may include physical barriers, a new way to perform the job, changing the conditions that created the hazard, reducing frequency or exposure to the hazard, providing protective equipment, etc. Each corrective action may introduce other, unintentional hazards that require their own controls, which is why the process must be reviewed regularly to ensure that control measures are suitable and reasonable.

Appendix 1 provides a sample JSA form.

**Project Risk Assessment (PRA)**
Much like operational work, a research project involves inherent risks. The project may be the first of its kind, may involve new components or steps, or may be upscaled or down-scaled. The intent of the project risk assessment is similar to that of a job safety analysis; however, instead of focusing on the job or task, the PRA focuses on the steps and expected outcomes of the specific project. Like a JSA, the supervisor identifies the hazards at each step of the project, assesses the risks, and implements controls.

Appendix 2 provides a sample PRA form.

**Pre-Start Health and Safety Review (PSR)**
A pre-start health and safety review is an in-depth examination of an apparatus, structure, protective element, or process identified in the table of Section 7 of Regulation 851 – *Industrial Establishments*. The PSR is undertaken to identify any existing or potential non-compliance with the applicable provisions of the regulation. PSRs apply to specific circumstances (i.e. those workplaces defined as *factories*) and ensure a timely, professional review that identifies specific hazards and ensures that such hazards are removed or controlled before the apparatus or process is started.
PSRs are generally conducted by professional engineers, who produce formal reports outlining all areas of non-compliance. The report will include the measures necessary to achieve compliance.

The University of Ottawa is not a factory; however, in certain circumstances, it may prove beneficial to have an apparatus, structure, protective element or process undergo a pre-start health and safety review as a matter of due diligence.

You can find additional information on pre-start health and safety reviews in the Ministry of Labour Guidelines for Pre-Start Health and Safety Reviews and from the Office of Risk Management.

RESOURCES
Additional information is available from the following resources:
APPENDIX 1 – JOB HAZARD ANALYSIS
Job hazard analysis

Job details
The supervisor must review this document with the employee and both must sign in the field provided.

Job task(s): -
Date of observation: -
Name of employee observed: -
Title of employee observed: -
Faculty / Service: -
Department: -
Work observation location: -
Employee Signature:
Name of employee’s supervisor: -
Signature of supervisor:
Hazards identified: -

Hazard potential
☐ Major*
☐ Moderate
☐ Minor
*Note: Major rating requires a detailed standard operating procedure.

Personal protective equipment (PPE)
☐ Protective footwear ☐ Protective eyewear ☐ Respiratory protection ☐ Hearing protection
☐ Protective clothing ☐ Gloves ☐ Fall protection ☐ Hard hat
☐ Other (specify) -

Training required related to hazard -

Job task(s)
<table>
<thead>
<tr>
<th>Sequence for each task</th>
<th>Potential hazards</th>
<th>Control measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Additional notes -
# Project Risk Assessment – University of Ottawa

**Project details**
The supervisor must review this document with the student(s). After doing so, the supervisor and student(s) must sign where indicated. If there are any subsequent changes to the project, a new project risk assessment must be done.

**Project title:**

**Start date:**

**Expected end date:**

**Faculty:**

**Department:**

**Main work location:**

**Name of student(s):**

**Name of supervisor:**

**Student signature(s):** ___________________________  **Supervisor signature:** ___________________________

## Risk rating (see matrix below)

Note: If rated as **High** or **Extreme**, a dedicated standard operating procedure must be in place.

### Hazard type
- [ ] Biological
- [ ] Biomechanical
- [ ] Chemical
- [ ] Physical
- [ ] Radiological
- [ ] Other (specify) _______________________________

### Training required
- [ ] Advanced TDG
- [ ] Fall prevention
- [ ] Lab safety
- [ ] Spills response
- [ ] Aerial work platform
- [ ] Fire safety
- [ ] Laser safety
- [ ] Radiation safety
- [ ] Dry lab risk management
- [ ] Other (specify) _______________________________

### Engineered (built in) control
- [ ] Biological safety cabinet
- [ ] Fumehood
- [ ] Glovebox
- [ ] Local exhaust device
- [ ] Other (specify) _______________________________

### Personal protective equipment (PPE)
- [ ] Eye/face protection
- [ ] Gloves
- [ ] Harness
- [ ] Head protection
- [ ] Hearing protection
- [ ] Protective clothing
- [ ] Protective footwear
- [ ] Respiratory protection
- [ ] Other (specify) _______________________________

### Other considerations
- [ ] Shared laboratory  Yes  No
- [ ] Impact on other areas  Yes  No
- [ ] Use of controlled goods  Yes  No
- [ ] Emergency plan required  Yes  No
<table>
<thead>
<tr>
<th>Sequence of events (tasks)</th>
<th>Potential hazard</th>
<th>Work location</th>
<th>Likelihood of exposure to hazard</th>
<th>Consequence of exposure to hazard</th>
<th>Risk rating</th>
<th>Control measure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rare = 1, Unlikely = 2, Possible = 3, Likely = 4, Almost certain = 5</td>
<td>Insignificant = 1, Minor = 2, Moderate = 3, Major = 4, Catastrophic = 5</td>
<td>Low, Medium, High, Extreme</td>
<td></td>
</tr>
</tbody>
</table>

Additional notes