STUDENT PROJECT HAZARD/RISK ASSESSMENT

Date: _____

Student(s): _____

_____

Project Name: _____

Instructor(s): _____

Department(s): _____

Course: _____

Location(s): _____

_____

_____

Emergency Contact Information:
Emergency contacts should include at least one student and one faculty/staff member

Name	Title	Department	Office	Office Phone	Alternate Phone

*****You must post emergency contacts at workstation*****

Additional Comments:

Project Description
Briefly describe your project and its aims.

RAMPP Introduction
You will be using the RAMPP system to assess the risk associated with your project and then plan for how to work safely. The RAMPP system is a framework for integrating safety into your thought process from beginning to end.

R Recognize hazards
Examples:
- Training
- Safety stories
- Signs & labeling
- Equipment certification & operation

A Assess hazards
Examples:
- Safety Data Sheets (SDS)
- Chemical segregation/storage group guides
- Radiation/Laser Safety Program
- Chemical Hygiene Program
- Biological Safety Program

M Minimize or Mitigate hazards
Examples
- Hierarchy of Controls
- Take action yourself
- Request assistance from leadership
- Request assistance from Safety Specialist

P Prepare for emergencies
Examples
- Emergency Action/Emergency Evacuation Plan
- Spill kits & first aid kits
- Fire extinguisher training
- Incident notification

P Perform Safely
Examples
- Chemical storage and segregation
- Waste handling and disposal
- Exposure/Risk Assessments
- PPE Hazard Assessments
- SOP’s
- Ongoing evaluations of conditions

Recognize Hazards
Use the next several pages to indicate the materials/activities for your project. Click the box to insert an 'x' for something you are working with.

Biological Hazards ☐N/A

☐Animal blood, body fluids, and/or tissues
☐Fixed ☐Fresh
☐Non-human primate blood, body fluids, and/or tissues
☐Non-primate blood, body fluids, and/or tissues
Notes:

☐Biological materials
☐Biosafety Level 1 ☐Biosafety Level 2
Notes:

☐Biological Safety Cabinet use
Notes:

☐Human blood, body fluids, tissues, and/or Bloodborne pathogens
☐Fixed ☐Fresh
Notes:

☐Infectious proteins
Notes:

☐Live animals
☐Animal Biosafety Level 1 ☐Animal Biosafety Level 2
☐Live animals treated with chemical hazards
☐Live invertebrates ☐Live vertebrates
Notes:

☐Recombinant and/or synthetic nucleic acids
Notes:

☐Plants
☐Plant Biosafety Level 1 ☐Plant Biosafety Level 2
Notes:

Additional Comments:

Chemical Hazards ☐N/A

You should include an SDS for all hazardous materials you are working with.

- ☐Chemical fume hood use
  - Notes:

- ☐Hazardous chemicals
  - ☐Corrosive liquids
  - ☐Environmental hazards
  - ☐Flammable chemicals
  - ☐Health hazards
  - ☐Irritants
  - ☐Nanomaterials
  - ☐Toxic chemicals
  - Notes:

- ☐Hazardous compressed gases
  - ☐Asphyxiant (N, He, Ne, Ar, Kr, or Xe)
  - ☐Corrosive
  - ☐Flammable
  - ☐Oxidizing
  - ☐Toxic
  - Notes:

- ☐Highly toxic chemicals
  - ☐HF
  - ☐Mercury
  - Notes:

- ☐Reactive chemicals
  - ☐Explosive compounds
  - ☐Oxidizers
  - ☐Perchloric acid
  - ☐Peroxide formers
  - ☐Pyrophoric chemicals
  - ☐Water-reactive chemicals
  - Notes:

- Additional Comments:

Ionizing Radiation Hazards ☐N/A

☐Ionizing radiation (including x-ray) generating equipment

Notes:

☐Radioactive materials

☐Emission: ☐Alpha ☐Beta ☐Gamma

☐Human blood, body fluids, and/or tissues – radioactive

☐Radioactive iodine compounds

Notes:

Additional Comments:

Non-Ionizing Radiation Hazards ☐N/A

☐Commercial or lab-built microwave/radio frequency emitting equipment

Notes:

☐Lasers

☐Lasers with beam paths that leave the optical table

☐Open beam: ☐Class IV ☐Class IIIB

Notes:

☐Magnetic fields, high intensity

Notes:

☐UV light sources

Notes:

Additional Comments:

Regulated Activities ☐N/A

☐Having minors in the lab

Notes:

☐Regulated chemicals

☐Drug Enforcement Agency substances: ☐controlled ☐regulated

Notes:

☐Shipping materials outside of institution

☐Biological ☐Chemical ☐Radioactive

Notes:

☐Transporting materials between buildings or campuses

☐Between buildings: ☐Biological ☐Chemical ☐Radioactive

☐Between campuses: ☐Biological ☐Chemical ☐Radioactive

Notes:

Additional Comments:

Physical Hazards ☐N/A

☐Cryogens
Notes:

☐Electrical hazards (exposed electrical greater than 50V)
Notes:

☐Fieldwork in extreme environments
Notes:

☐Heavy material handling equipment
Notes:

☐Heights (working at 6 ft. or higher)
Notes:

☐High heat (kiln, heating mantel, etc.)
Notes:

☐Hot work (fire or spark producing: welding, soldering, etc.)
Notes:

☐Inert compressed gases
Notes:

☐Noise hazards (greater than 85dB)
Notes:

☐Pressure and vacuum vessels
Notes:

☐Robotic machinery
Notes:

☐Sharps
Notes:

☐Shop equipment
Notes:

Additional Comments:

Assess Hazards
Use a risk assessment matrix to analyze the materials/activities you identified in the previous section. Classify each material/activity to determine if action should be taken to mitigate the risk.

A risk assessment matrix (see below) focuses on two aspects to help you identify which risks pose the greatest overall threats (and therefore are the top priority to address):

1) Severity: The impact of a risk and resulting negative consequences.
2) Likelihood: The probability of the risk occurring.

Risks can be to yourself, your project, your fellow students, the community, the environment, and/or the university's property or reputation.

Determine the severity of the negative consequences for each material/activity:

1) Insignificant: Risk with no real negative consequences; poses no significant threat to people or the project.
2) Minor: Risk with a small potential for negative consequences; will not significantly affect overall success.
3) Moderate: Risk with the potential for negative consequences; poses a moderate threat to people or the project.
4) Major: Risk with substantial negative consequences; will seriously affect people or the project.
5) Critical: Risk with extreme negative consequences; could cause the entire project to fail or severely affect people.

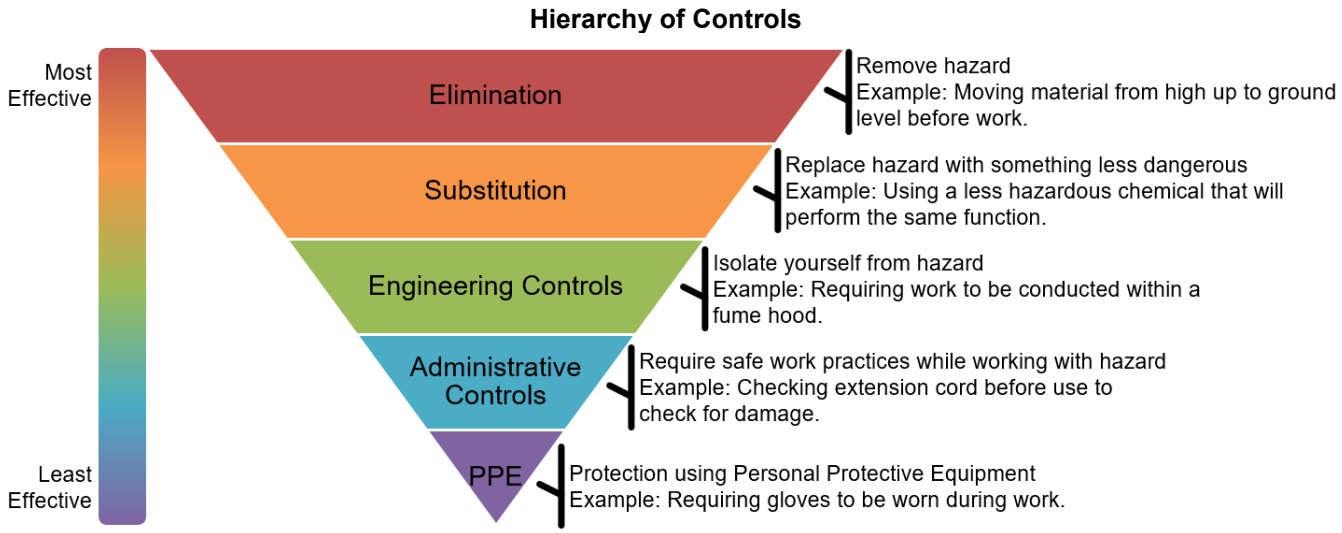
Determine how likely it would be for a negative consequence to occur for that material/activity:

1) Rare: Extremely uncommon; almost no probability of occurring.
2) Unlikely: Relatively uncommon; have a small chance of manifesting.
3) Possible: More typical; about a 50/50 chance of taking place.
4) Likely: Highly probable to occur.
5) Almost certain: Will occur.

Risk Assessment Matrix		**Consequence**				
		insignificant	minor	moderate	major	critical
Likelihood	rare	low	low	low	medium	high
	unlikely	low	low	medium	medium	high
	possible	low	medium	medium	high	high
	likely	medium	medium	high	high	extreme
	almost certain	medium	medium	high	extreme	extreme

low	**medium**	**high**	**extreme**
• Consequences of the risk are minor, and it is unlikely to occur. • Risk is generally ignored.	• Risk is somewhat likely to occur, with slightly more serious consequences. • Take steps to prevent risk from occurring, but it is not high-priority.	• Risk is serious with significant consequences, and is likely to occur. • Prioritize and respond to these risks in the near term.	• Risk is catastrophic with severe consequences and is highly likely to occur. • Respond to risk immediately.

Minimize or Mitigate Hazards
For each material/activity determined to have a measure of risk, describe the controls you will be using to mitigate that risk.



Minimize or Mitigate Hazards: Personal Protective Equipment (PPE)
Use the table below to determine what PPE may be required to minimize/mitigate the hazards associated with a particular task. You can use this for each process, if necessary. Click the box to insert an 'x' for something you are working with.

Job/Task:

Eyes/Face ☐Negligible hazard		
Work-related exposure to: ☐Airborne dust ☐Flying particles/debris ☐Hazardous liquids/chemicals ☐Intense light ☐Lasers ☐Other:	*PPE required to manage hazard:* ☐Face shield ☐Safety glasses ☐Safety goggles ☐Shading/filter: ☐Welding shield ☐Other:	*Comments:*
Head ☐Negligible hazard		
Work-related exposure to: ☐Falling objects ☐Machine parts ☐Moving parts ☐Work overhead ☐Other:	*PPE required to manage hazard:* ☐Protective helmet ☐Type A ☐Type B ☐Type C ☐Hairnet or soft cap ☐Other:	*Comments:*
Ears ☐Negligible hazard		
Work-related exposure to: ☐Loud work environment ☐Noisy machines/tools ☐Spark-producing machinery	*PPE required to manage hazard:* ☐Ear plugs ☐Hearing protection ☐Type:	*Comments:*
Lungs ☐Negligible hazard		
Work-related exposure to: ☐Dust/particles ☐Chemical gas/vapor ☐Other:	*PPE required to manage hazard:* ☐Respirator: ☐Cartridge type: ☐Dust mask ☐Other:	*Comments:*
Hands/Arms ☐Negligible hazard		
Work-related exposure to: ☐Biological material ☐Electrical shock ☐Hazardous liquids/chemicals ☐Scrapes, bruises, or cuts ☐Injuries from tools ☐Extreme heat/cold ☐Other:	*PPE required to manage hazard:* ☐Gloves ☐Chemical resistant ☐Cut resistant ☐Electrical protection ☐Temperature resistant ☐Work gloves ☐Chemical protective sleeves ☐Laboratory coat: ☐Long sleeves ☐Welding leathers ☐Other:	*Comments:*
Feet/Legs ☐Negligible hazard		
Work-related exposure to: ☐Hazardous liquids/chemicals ☐Heavy falling/rolling objects ☐Puncture ☐Slippery surfaces ☐Other:	*PPE required to manage hazard:* ☐Full-coverage footwear ☐Long pants/skirt/dress ☐Safety shoes/boots ☐Toe protection ☐Metatarsal protection ☐Other:	*Comments:*
Skin ☐Negligible hazard		
Work-related exposure to: ☐Hazardous liquids/chemicals ☐Sharp/rough/irritating material ☐Extreme heat/cold ☐Other:	*PPE required to manage hazard:* ☐Apron: ☐Laboratory coat: ☐Tyvek suit ☐Other:	*Comments:*

Minimize or Mitigate Hazards: Waste Management
List the waste that will be generated and describe the waste management procedures you will be using. Click the box to insert an 'x' for something you are working with.

☐ Waste will not be generated during work

☐Waste for process:

Type

☐Biological Waste

☐Liquid ☐Solid

Notes:

☐Chemical Waste

☐Liquid ☐Solid

Notes:

☐Sharps Waste

☐Biological ☐Chemical

Notes:

Disposal Procedures

Prepare for Emergencies
Describe the procedures you need to prepare for an emergency. Make sure to include the necessary people to contact in the event of an emergency.

What will you do in the event of:

1) A hazardous material spill or release?

2) Fire or smoke?

3) Fume hood or building exhaust air failure?

4) A flood or water loss event?

5) Hazardous material exposure?

6) Injury or a medical event?

7) Power or equipment failure?

8) Data loss?

9) Public safety or security risk?

Perform Safely
Describe the everyday procedures you will use to perform safely.
Examples: Housekeeping, chemical segregation, self-inspections, re-evaluation of processes periodically to identify new risks, etc.

This section should include your project's safe operating procedures (SOPs), as well as your planned process for re-evaluating and/or updating the SOPs.