

## Job Hazard Analysis Program

1. Purpose: The Job Hazard Analysis (JHA) program provides a process for analyzing potential hazards and risks associated with performing work activities and identifies methods of controlling these risks.
2. Scope
  - 2.1. This program applies to all University personnel. The Job Hazard Analysis (JHA) Form may be used to identify and assess hazards for both routine and non-routine tasks.
  - 2.2. All jobs/work tasks should be subjected to a JHA. Due to practical restraints, the most critical jobs should be examined first. Factors to consider when assessing criticality include accident frequency and severity, potential for severe injury or illness, new tasks or tasks requiring new equipment, modified tasks, and infrequently performed tasks.
3. Definitions
  - 3.1. **Controls** - Methods implemented to eliminate or reduce occupational hazards. The Hierarchy of Controls should be followed in order of effectiveness and include:
    - **Elimination** - physically removes the hazard;
    - **Substitution** - uses a safer alternative to the source of the hazard;
    - **Engineering Controls** - isolate workers from the hazard. Examples of isolation include interlocks, machine guards, blast shields, welding curtains, or other means;
    - **Administrative Controls** - are changes in work processes such as written safety procedures, work permits, alarms, signs, warnings, job rotation, or training with the goal of reducing the duration, frequency, and severity of exposure to hazardous chemicals or situations.
    - **Personal Protective Equipment (PPE)** - is equipment worn by workers to minimize exposure to hazards that cause workplace injuries and illnesses. Examples include hearing protection, safety glasses, hard hats, and protective clothing.
  - 3.2. **Exposure** - State of being exposed based on a worker's proximity to a hazard.
  - 3.3. **Hazard** - Potential for harm. A hazard is often associated with a condition or activity, that if left uncontrolled, can result in an injury or illness.
  - 3.4. **Job Hazard Analysis** - A tool and process for identifying and evaluating potential hazards or risks associated with a particular job or task. It involves breaking down a job into individual steps and analyzing each step to identify hazards and the controls to mitigate hazards.
  - 3.5. **Step** - The smallest identifiable portion of a task that advances the work (e.g. checking the oil level).
  - 3.6. **Task** - A specific segment of work, a work assignment, or a set of actions required to achieve a specific work objective (e.g. inspect lift truck, transfer product to warehouse, etc.).
4. Responsibilities
  - 4.1. Manager/Supervisor
    - 4.1.1. Develop JHAs within their work areas.

- 4.1.2. Implement controls and eliminate or minimize hazards in their work area.
- 4.1.3. Use JHAs to structure employee training on specific tasks.
- 4.1.4. Periodically review JHAs to ensure they are current.
- 4.1.5. Update staff on any changes to existing JHAs made during the review process.
- 4.2. Environmental Health and Safety
  - 4.2.1. Maintain the written JHA program.
  - 4.2.2. Support departments by providing training and guidance in developing or reviewing JHAs.
- 4.3. Employees
  - 4.3.1. Participate in the development of JHAs when needed.
  - 4.3.2. Follow guidelines established by the JHA for specific job tasks.
  - 4.3.3. Notify the manager/supervisor if there are job task changes or discrepancies in a JHA.
- 5. Procedure: Using a blank JHA Form (Appendix A), complete the following steps:
  - 5.1. Document the requested information about the job at the top of the form.
  - 5.2. Sequence the steps - Document each step (or task) required to complete the job. If needed, watch the employee perform the job and list each step as the worker performs it.
    - 5.2.1. It may be helpful to photograph or record the worker performing the job. Visual records can be handy references when conducting a more detailed analysis of the work.
    - 5.2.2. Get input from other workers who have performed the same job.
    - 5.2.3. Review the job steps with the employee(s) to ensure all the steps are captured.
  - 5.3. Potential Hazard(s) Column - Identify and document the potential hazards associated with each task. (See Appendix B for common hazards and descriptions) The goal is to discover the following:
    - What could go wrong?
    - What are the consequences?
    - How could a hazard arise?
    - What are the contributing factors?
    - How likely is it that the hazard could occur?
  - 5.4. Controls column - After reviewing the list of hazards with the employee, consider what control methods will eliminate or reduce them. Document all the possible controls for each of the hazards identified in each of the steps.
    - 5.4.1. Not all hazard controls are equal. Some are more effective than others at reducing risk. The order of effectiveness from most to least is as follows:
      - Elimination/Substitution
      - Engineering
      - Administrative
      - Personal Protective Equipment (PPE)
    - 5.4.2. The use of one hazard control method over another that is higher in control effectiveness may be appropriate for providing interim protection until the hazard can be abated permanently.

6. Training: Before completing a JHA, managers/supervisors shall complete the eNDeavor Hazard Recognition course and JHA training course.
7. Record Retention
  - 7.1. Training records and JHAs shall be maintained per the University Record Management and Archive Policy.
  - 7.2. JHA records may be retained electronically or in hard copy format.

| Procedure Revision Table                                                  |                    |
|---------------------------------------------------------------------------|--------------------|
| Revision Description                                                      | Date Revision Made |
| Job Hazard Assessment Program Developed                                   | September 2020     |
| Review and Update completed including update of JHA Template (now linked) | October 2024       |
| Updated JHA procedure                                                     | September 2026     |



## **Appendix A**

### **Job Hazard Analysis Form**

[JHA&PPE Task Template](#)

## Appendix B

### Common Hazards and Descriptions

| <b>Hazard</b>                           | <b>Hazard Description</b>                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chemical (Toxic)                        | A chemical that exposes a person by absorption through the skin, inhalation, or through the bloodstream that causes illness, disease, or death. The amount of chemical exposure is critical in determining hazardous effects. Check Safety Data Sheets (SDS) and OSHA 1910.1000 for chemical hazard information.                                       |
| Chemical (Flammable)                    | A chemical that, when exposed to a heat ignition source, results in combustion. Typically, the lower the chemical's flash point and boiling point, the more flammable the chemical is. Check SDS for flammability information.                                                                                                                         |
| Chemical (Corrosive)                    | A chemical that, when it comes into contact with the skin, metal, or other materials, damages the materials. Acids and bases are examples of corrosives.                                                                                                                                                                                               |
| Explosion (Chemical Reaction)           | A compound or mixture which, upon the application of heat or shock, decomposes or rearranges with extreme rapidity, yielding much gas and heat.                                                                                                                                                                                                        |
| Explosion (Over Pressurization)         | Sudden and violent release of a large amount of (Over gas/energy due to a significant pressure difference pressurization) such as rupture in a boiler or compressed gas cylinder.                                                                                                                                                                      |
| Electrical (Shock/Short Circuit)        | Contact with exposed conductors or a device that is incorrectly or inadvertently grounded, such as a short circuit, when a metal ladder comes into contact with power lines. 60 Hz alternating current (common house current) is very dangerous because it can stop the heart.                                                                         |
| Electrical (Fire)                       | Use of electrical power that results in electrical overheating or arcing to the point of combustion or ignition of flammables or electrical component damage.                                                                                                                                                                                          |
| Electrical Static Discharge (ESD)       | The moving or rubbing of wool, nylon, other (static/ESD) synthetic fibers, and even flowing liquids can generate static electricity. This creates an excess or deficiency of electrons on the surface of material that discharges (spark) to the ground resulting in the ignition of flammables or damage to electronics or the body's nervous system. |
| Electrical (Loss of Power)              | Safety critical equipment failure as a result of loss of power.                                                                                                                                                                                                                                                                                        |
| Ergonomics (Strain)                     | Damage of tissue due to overexertion (sprains and strains) or repetitive motion.                                                                                                                                                                                                                                                                       |
| Ergonomics (Human Error)                | A system design, procedure, or equipment that is error-provocative (a switch goes up to to turn something off).                                                                                                                                                                                                                                        |
| Excavation (Collapse)                   | Soil collapse in a trench or excavation as a result of improper or inadequate shoring. Soil type is critical in determining the hazard likelihood.                                                                                                                                                                                                     |
| Fall (Slip, Trip)                       | Conditions that result in falls (impacts) from height or traditional walking surfaces (such as slippery floors, poor housekeeping, uneven walking surfaces, exposed ledges, etc.).                                                                                                                                                                     |
| Fire/Heat                               | Temperatures that can cause burns to the skin or damage to other organs. Fire requires a heat source, fuel, and oxygen.                                                                                                                                                                                                                                |
| Mechanical/Vibration (Chaffing/Fatigue) | Vibration that can cause damage to nerve endings, or material fatigue that results in a safety-critical failure (Examples are abraded slings and ropes, fatigue weakened hoses and belts).                                                                                                                                                             |
| Mechanical Failure                      | Typically occurs when devices exceed designed capacity or are inadequately maintained.                                                                                                                                                                                                                                                                 |

|                                 |                                                                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mechanical                      | Skin, muscle, or body part exposed to crushing, caught-between, cutting, tearing, or shearing items or equipment.                                            |
| Noise                           | Noise levels (> 85 dBa) that result in hearing damage or inability to communicate safety-critical information.                                               |
| Radiation (Ionizing)            | Alpha, beta, gamma, neutral particles, and X-rays cause injury to tissue by ionization of cellular components.                                               |
| Radiation (Non-ionizing)        | Ultraviolet, visible light, infrared, and microwaves cause injury to tissue by thermal or photochemical means.                                               |
| Struck Against                  | Injury to a body part as a result of coming into contact of a surface in which action was initiated by the person. (An example is when a screwdriver slips.) |
| Struck By (Mass Acceleration)   | Accelerated mass that strikes the body causing injury or death. (Examples are falling objects and projectiles).                                              |
| Temperature Extreme (Heat/Cold) | Temperatures that result in heat stress, exhaustion, or metabolic slow down such as hypothermia.                                                             |
| Visibility                      | Lack of lighting or obstructed vision results in an error or other hazard.                                                                                   |
| Weather                         | Snow, rain, wind, ice, heat.                                                                                                                                 |