

Job Hazard Analysis



University of Washington – Seattle Campus
 Facilities Services – Campus Engineering & Operations
 Seattle, WA 98195

Working Job Title: Energy Engineer

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JHA Completed by Campus Energy Asst Director

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The Job Hazard Analysis form is designed to help supervisors assess and address health and safety hazards that have the potential to cause serious injury or illness (e.g. power tools, electrical repairs). Supervisors can use this document to train staff on safe work procedures.

The information below is a good faith effort to identify hazards encountered by an Energy Engineer. If a specific job task is not listed below, contact your supervisor to determine if a specific job hazard analysis or work plan is required.

The baseline training requirements for this position are:

- Asbestos Awareness
- First aid & CPR
- Fire Extinguisher Hands On
- Hepatitis B Vaccination (must be offered)
- Monthly shop safety meetings on PPE, shop safety standards
- Bloodborne Pathogens for Non-Lab Online
- Ergonomic Online training (optional)
- Fire Extinguisher Online
- HazCom/GHS
- Lead Awareness Online

This document will serve as the certification of hazard assessment for personal protective equipment for the above working job title position.

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
Computer work	<ul style="list-style-type: none"> Ergonomic problems: carpal tunnel and back problems Eye strain 	<ul style="list-style-type: none"> Adequate lighting Take frequent breaks/stretch/move Review ergonomic info on EH&S website Request on Ergonomic evaluation from EH&S 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Ergonomic online training (optional) <p>PPE</p> <ul style="list-style-type: none"> None
General use of hand and power tools such as multi-meters, camera, temperature probe	<ul style="list-style-type: none"> Bodily injury 	<ul style="list-style-type: none"> Follow industry safety standards for operating power/hand tools 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Monthly shop safety meetings on PPE <p>PPE</p> <ul style="list-style-type: none"> Substantial footwear Impact glasses -as needed Gloves -as needed
Cell phone usage	<ul style="list-style-type: none"> Inattention leading to bodily injury 	<ul style="list-style-type: none"> Be aware of your surroundings 	<p>Task Specific Training</p> <ul style="list-style-type: none"> None <p>PPE</p> <ul style="list-style-type: none"> None

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
Observe the performance of building systems in mechanical spaces , to later calculate and develop engineering solutions for energy conservations	<ul style="list-style-type: none"> Airborne contaminants (such as mold, refrigerant leak) Confined spaces (such as crawl space, plenums, tunnels) Electrically energized equipment Hazardous energy (mechanical, heat, pressure (steam, gas)) Heat stress Insufficient lighting Noise Overhead equipment/hazards Power/Hand tools Regulated materials such as asbestos, lead, silica Slip/trip/fall Scaffolding Vermin feces (such as bird or rodent) Work off ladders 	<ul style="list-style-type: none"> Avoid energized electrical work when possible Ensure work area is clear from spills and trip hazards If hot, drink water and take necessary rest breaks Lockout procedure, LOTO locks & tags Location of exits Location of fire extinguisher Location of first aid kit Pest Contractor – as needed Refrigerant leak SOP (if applicable) Shop safety standard operating procedures This job position does not typically perform work on regulated building materials Tool tethering and toe boards Understand and implement industry safety standards for operating power/hand tools Understand and implement the Utility Tunnel Access Program Use temporary lighting (such as flashlights, head lamps) 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Confined Space Awareness Online Hearing Protection/Conservation Online Ladder Safety Hands On Ladder Safety Online Lockout/Tagout Safety Refrigerant Monitoring Scaffold Safety Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none"> Bump cap -as needed Gloves – as needed Head light / Flashlight / temporary lighting Hearing protection - as needed Impact glasses/goggles – as needed Substantial footwear

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Observe the performance of building systems on roof tops to later calculate and develop engineering solutions for energy conservations</p> <p>Walking across roof tops Fans/VFD controls Cooling towers</p>	<ul style="list-style-type: none"> Biological hazards (such as cooling tower –legionella) Electrically energized equipment Fall hazard (such as skylights, parapet <44”, roof hatches w/o railings) Hazardous energy (mechanical, pressure gas/steam) Power/Hand tools Regulated materials such as asbestos, lead, silica Slip/trip/fall UV light (radiant energy – radio frequency) Vermin feces (such as bird or rodent) 	<ul style="list-style-type: none"> Avoid energized electrical work when possible Cooling tower work practice (if applicable) Ensure work area is clear from spills and trip hazards Fall protection work plan (if applicable) Lockout procedure, LOTO locks & tags Location of exits Location of fire extinguisher Location of first aid kit Pest Contractor – as needed This job position does not typically perform work on regulated building materials Understand and implement industry safety standards for operating power/hand tools Water treatment plan 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Fall Protection Lockout/Tagout Safety Radio-Frequency Radiation Safety Awareness Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none"> Gloves – as needed Impact glasses/goggles – as needed Personal fall restraint/arrest equipment Substantial footwear

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Observe the performance of building systems in animal spaces to later calculate and develop engineering solutions for energy conservations</p> <p>Guthrie roof (bird/bat) Kincaid (fish tanks) Cage wash</p>	<ul style="list-style-type: none"> Airborne contaminants (such as odors, mold, animal dandruff) Biological hazards (such as blood, animal feces, bedding material) Hazardous energy (mechanical, heat, pressure (gas)) Insufficient lighting Power/Hand tools Regulated materials such as asbestos, lead, silica Slip/trip/fall Vermin feces (such as bird or rodent) Work off ladders 	<ul style="list-style-type: none"> Avoid energized electrical work when possible Check-in with the department prior to work Ensure work area is clear from spills and trip hazards Eye wash station Lockout procedure, LOTO locks & tags Location of exits Location of fire extinguisher Location of first aid kit This job position does not typically perform work on regulated building materials Understand and implement industry safety standards for operating power/hand tools Use temporary lighting (such as flashlights, head lamps) 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Biosafety: Working in Non-Human Primate Areas Department specific training Ladder Safety Hands On Ladder Safety Online Lockout/Tagout Safety Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none"> Animal Areas: head cover, shoe coveralls, gloves, coveralls, face shield Dust mask -as needed Work Gloves – as needed Head light / Flashlight / temporary lighting Impact glasses/goggles – as needed Substantial footwear Any other PPE as specified by the department

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<p>Observe the performance of building systems in laboratories to later calculate and develop engineering solutions for energy conservation (building ventilation system only, not lab dedicated exhaust)</p>	<ul style="list-style-type: none"> Airborne contaminants (such as occupant concerns, odors, mold, vapor, fume) Ergonomic problems such as awkward posture Insufficient lighting Overhead equipment/hazards Power/Hand tools Regulated materials such as asbestos, lead, silica Slip/trip/fall Vermin feces (such as bird or rodent) Work off ladders 	<ul style="list-style-type: none"> Avoid energized electrical work when possible Check-in with the department prior to work Ensure work area is clear from spills and trip hazards Location of exits Location of fire extinguisher Location of first aid kit Shop safety standard operating procedures This job position does not typically perform work on regulated building materials Understand and implement industry safety standards for operating power/hand tools Use temporary lighting (such as flashlights, head lamps) 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Department specific training Ladder Safety Hands On Ladder Safety Online <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none"> Bump cap -as needed Dust mask -as needed Gloves - as needed Head light / Flashlight / temporary lighting Hearing protection - as needed Impact glasses/goggles – as needed Substantial footwear Any other PPE as specified by the department / lab entry sign

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Observe the performance of building systems in offices/public spaces to later calculate and develop engineering solutions for energy conservations</p> <p>(HVAC ventilation layout, configuration observe air flow rates, Thermostat locations, tracing ductwork, window configuration, operation type, hydronic piping, and radiator observation)</p>	<ul style="list-style-type: none"> Ergonomic problems such as awkward posture Insufficient lighting Overhead equipment/hazards Power/Hand tools Regulated materials such as asbestos, lead, silica Slip/trip/fall Vermin feces (such as bird or rodent) Work off ladders 	<ul style="list-style-type: none"> Avoid energized electrical work when possible Check-in with the department prior to work Ensure work area is clear from spills and trip hazards Location of exits Location of fire extinguisher Location of first aid kit Shop safety standard operating procedures This job position does not typically perform work on regulated building materials Understand and implement industry safety standards for operating power/hand tools Use temporary lighting (such as flashlights, head lamps) 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Ladder Safety Hands On Ladder Safety Online <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none"> Bump cap -as needed Dust mask -as needed Gloves - as needed Head light / Flashlight / temporary lighting Impact glasses/goggles – as needed Substantial footwear

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<p>Observe the performance of building systems in active construction/installation within occupied buildings to later calculate and develop engineering solutions for energy conservations</p> <p>(active project work sites in occupied building)</p>	<ul style="list-style-type: none"> Airborne contaminants (such as occupant concerns, odors, mold, vapor, fume, animal dandruff, refrigerant leak) Confined spaces (such as crawl space, ceiling plenums, cooling towers) Construction Activities Ergonomic problems such as awkward posture Fall hazard Hazardous energy (mechanical, heat, pressure (gas or liquid lines)) Insufficient lighting Noise Overhead equipment/hazards Power/Hand tools Regulated materials such as asbestos, lead, silica Slip/trip/fall Scaffolding UV light (radiant energy – radio frequency) Vermin feces (such as bird or rodent) Work off ladders 	<ul style="list-style-type: none"> Avoid energized electrical work when possible Check-in with the department / construction contact person / control room prior to work Confined space permit (if applicable) Ensure work area is clear from spills and trip hazards Fall protection work plan (if applicable) Location of exits Location of fire extinguisher Location of first aid kit Refrigerant leak SOP (if applicable) Shop safety standard operating procedures This job position does not typically perform work on regulated building materials Tool tethering and toe board Understand and implement industry safety standards for operating power/hand tools Use temporary lighting (such as flashlights, head lamps) Water treatment plan 	<p>Task Specific Training</p> <ul style="list-style-type: none"> Confined Space Awareness Online Department specific training Fall Protection Hearing Protection/Conservation Online Ladder Safety Hands On Ladder Safety Online Radio-Frequency Radiation Safety Awareness Refrigerant Monitoring Scaffold Safety <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none"> Construction – hard hat, impact glasses/goggles, safety vest, gloves, substantial footwear – as required Dust mask -as needed Head light / Flashlight / temporary lighting Hearing protection - as needed Personal fall restraint/arrest equipment Substantial footwear Any other PPE as specified by the construction site