

JOB HAZARD ANALYSIS

AIR QUALITY TECHNICIAN | **SAFE OPERATING GUIDELINES** | **2017**

	HAZARD POTENTIAL EVALUATION				ERGONOMICS ASSESSMENT											
	<input checked="" type="checkbox"/> Struck By	<input checked="" type="checkbox"/> Weather Conditions	<input checked="" type="checkbox"/> Lifting	L	M	F	<input type="checkbox"/> Walking	L	M	F	<input type="checkbox"/> Kneeling	L	M	F		
	<input checked="" type="checkbox"/> Struck Against	<input checked="" type="checkbox"/> Hazardous Substance	<input checked="" type="checkbox"/> Carrying	L	M	F	<input type="checkbox"/> Standing	L	M	F	<input type="checkbox"/> Hearing/Noise	L	M	F		
	<input checked="" type="checkbox"/> Slip/Trip/Fall	<input checked="" type="checkbox"/> Electrical Hazards	<input checked="" type="checkbox"/> Reaching Above Shoulder	L	M	F	<input type="checkbox"/> Sitting	L	M	F	<input type="checkbox"/> Climbing Stairs	L	M	F		
	<input checked="" type="checkbox"/> Caught In/Between	<input checked="" type="checkbox"/> Obstruction/Confined	<input checked="" type="checkbox"/> Straight Pulling	L	M	F	<input type="checkbox"/> Crawling	L	M	F	<input type="checkbox"/> Climbing Ladders	L	M	F		
	<input checked="" type="checkbox"/> Material Handling	<input checked="" type="checkbox"/> Equipment Operating	<input checked="" type="checkbox"/> Pulling hand over hand	L	M	F	<input type="checkbox"/> Twisting	L	M	F	<input type="checkbox"/> Simple Grasp	L	M	F		
HIRAC	1	2	3	4	<input checked="" type="checkbox"/> Dual Grasp	L	M	F	<input type="checkbox"/> Pushing	L	M	F	<input type="checkbox"/> Repeated Motion	L	M	F

TRAINING REQUIREMENTS

GENERAL CAMPUS			DEPARTMENT SPECIFIC			SPECIALTY																					
Cal Maritime	EHS Pocket Guide	Emergency Response Guide	Department	Authorized Driver	Ergonomics RMI Prevention	Basic First Aid/CPR/AED	Marine Programs	T.S. Golden Bear	As Identified/Determined																		
I	A	O	H	I	A	O	H	I	A	O	H	I	A	O	H	I	A	O	H	I	A	O	H	I	A	O	H

DO NOT USE ANY EQUIPMENT OR MACHINE UNLESS YOU HAVE RECEIVED INSTRUCTION IN THE SAFE USE AND OPERATION AND HAVE AUTHORIZATION TO USE.











PERSONAL PROTECTIVE EQUIPMENT

Eye Protection	Foot Protection	Hand Protection	Hearing Protection	Body Protection	Head Protection	Respiratory Protection	Fall Protection	Face Shield	OTHER
When exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation...	When working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, or will protect the affected	When hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns	When exposed to a time weighted average noise level of 85 dBA or higher over an 8 hour work shift.	When exposure to: Intense heat, hot metals, other hot liquids Impacts from materials that can cut, burn Hazardous chemicals Or potentially infectious materials	Where there is a potential for injury to the head from falling objects and/or when there is a risk of impact to head	May be required if removal of contaminants from the air does not fall below permissible exposure level.	When there is a risk of falling from a height greater than 4ft GSO 6ft CSO 6ft MSO When working in confined space	Face shield can be used over the glasses if there is a presence of a lot of flying debris.	










IF CONDITIONS CHANGE: STOP WORK IMMEDIATELY-REVIEW WITH SUPERVISOR-DOCUMENT HAZARD-REVIEW WITH SRM

Ergonomic (L) Low <2hrs (M) Moderate 2-5hrs (F) Frequent >5hrs per 8-hours Training (I) Initial (A) Annual Refresher (O) Occasion/Post Incident (H) Hazard







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GENERAL CAMPUS SAFE OPERATING PROCEDURES			
WORK DUTIES		HAZARD POTENTIAL	HAZARD CONTROLS & PROTECTION MEASURES
1	Use of office equipment 	Electrocution, electrical shock, bruising and miscellaneous injuries	<ul style="list-style-type: none"> ⚡ Ensure all electrical equipment is properly grounded. (i.e. three prong electrical plugs) and in proper working order before using. Strictly follow all manufactures precautions and recommendations. ⚡ DO NOT overload circuits by stringing multiple power strips (also known as daisy chaining)
2	Using ladders or step-ladders 	Ladder collapsing; Slipping and falling from ladder	<ul style="list-style-type: none"> ⚡ Inspect ladder before use. Use ladder at proper height. ⚡ Make sure the ladder is assembled, locked and on level ground. ⚡ DO NOT exceed weight limit for ladder. ⚡ DO NOT stand on the top or top rung of ladder and make sure a co-worker is holding ladder if any higher than a step-ladder.
3	Work Station 	Muscle-skeletal disorders, eye/body strain and fatigue	<ul style="list-style-type: none"> ⚡ Ensure workstation is ergonomically correct for the person using the workstation. ⚡ Ensure proper lighting so that there isn't a glare in order to prevent eye strain. ⚡ Review phone placement and accessories so that operator is sitting square and limiting excessive head/neck tilt in order to prevent neck strain
4	Office Furniture 	Falling objects	<ul style="list-style-type: none"> ⚡ Ensure all doors and drawers are fully secured. Do not overload shelves. ⚡ Ensure bookcases are seismically strapped/secure to wall to prevent tipping over.
5	Walking in offices, buildings hallways and stairs 	Slips, trips and falls	<ul style="list-style-type: none"> ⚡ Ensure all walking and working surfaces have been properly maintained, properly lit, are free of debris and remove potential tripping hazards. ⚡ Use handrails when using stairs. ⚠ Note: No opened toed footwear is allowed in food operations ⚠ Note: No opened toed footwear is allowed on T.S. Golden Bear
6	Campus Construction Activities 	Pedestrians knocking over ladders or lights or bumping into worker; pedestrians getting hit with equipment or falling tools, etc.	<ul style="list-style-type: none"> ⚡ Always be aware of surroundings. ⚡ Stay away from construction zones.
7	Working outside in Weather 	Heat stroke, heat exhaustion, frostbite	<ul style="list-style-type: none"> ⚡ Dress appropriately for the weather, keep hydrated, and take necessary breaks when needed
8	Heaving lifting and reaching 	Overexertion, strains and sprains	<ul style="list-style-type: none"> ⚡ Use proper lifting techniques, limit duration of repetitive motion. ⚡ Always know your weight limit, lift with your legs, get help if needed. ⚡ Use step ladders when lifting objects above shoulder height.
9	Campus 	Personal safety and security	<ul style="list-style-type: none"> ⚡ Always be aware of your surroundings. ⚡ Changing weather conditions can increase slip hazards throughout the campus
10	Operating university vehicles 	Motor vehicle accident, striking a pedestrian or bicyclist	<ul style="list-style-type: none"> ⚡ Inspect vehicles before use. ⚡ Use seat belts. Travel at safe speed for conditions. ⚡ Stay alert for pedestrians, other vehicles, and objects in travel path.







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POSITION SPECIFIC SAFE OPERATING PROCEDURES			
WORK DUTIES		HAZARD POTENTIAL	HAZARD CONTROLS & PROTECTION MEASURES
1	Walking in offices, buildings hallways and stairs 	Slips, trips and falls	<ul style="list-style-type: none"> ☞ Ensure all walking and working surfaces have been properly maintained, properly lit, are free of debris and remove potential tripping hazards. ☞ Use handrails when using stairs. ⚠ Note: No opened toed footwear is allowed in food operations ⚠ Note: No opened toed footwear is allowed on T.S. Golden Bear
2	Using hand tools 	Cuts, pinches, smashes, punctures, severing of fingers.	<ul style="list-style-type: none"> ☞ Keep tools in good condition. Inspect tools before use. ☞ Wear safety glasses. Work away from yourself. ☞ Use normal caution required for all hand tools.
3	Working in areas with high vehicular traffic 	Struck by, caught in between to self or co-workers	☞ Barricade work areas using cones, tape or temporary fencing. Contact Campus Police for additional traffic control support . Wear appropriate PPE including high visibility vest if work is in an area with vehicle traffic
4	Working in areas with high pedestrian traffic 	Slips, trips, falls and other injuries to self, co-workers and pedestrians.	☞ Barricade work areas using cones, tape or temporary fencing. Wear appropriate PPE including high visibility vest if work is in an area with vehicle traffic
5	Using ladders(step and extension) 	Fall, broken bones, cuts, bruising, electrical shock	<ul style="list-style-type: none"> ☞ Always read and follow all manufactures labels/markings on the ladder. Always look for overhead power lines before moving or setting up a ladder. Always maintain 3-points of contact with the ladder. If using extension ladder; insure footing is secure, proper angle to building 4:1 and that 3 rungs exceed to top landing area. ☞ Ensure the ladders rungs, steps and feet are free from damage or slipper material.
6	Using motorized/elec trical tools & equipment 	Struck by, caught in between. Burns, electrical shock, electrocution, dismemberment, bruising, broken bones, blisters	☞ Ensure the tool/equipment is in proper working order prior to use. Ensure tool/equipment is turned off when performing maintenance and attaching or detaching equipment. Strictly follow manufacturer recommendations. Always wear appropriate PPE as determined by the scope specific JHA-PTP
7	Mobile lifts (scissor, articulating boom, truck mounted) 	Fall, electrocution, electrical shock, electrical burns	☞ Only certified operators may use mobile lift equipment. Always review and follow all manufacturer instructions for use. Conduct a pre-use inspection of the lift. Ensure lift is on a level surface prior to raising. Ensure there are no overhead obstructions or electrical lines. Always use appropriate fall protection as determined by manufacturer and/or required under University scope specific JHA-PTP.
8	Working in confined space 	Lack of oxygen or overexposure to methane gas	☞ Before working in confined area, verify that it is safe by monitoring air (get confined space permit as required). While working, always ventilate area using fan. Always have at least one person outside confined area to monitor safety of those working inside.
9	Working in poorly lit areas 	Slips trips and falls	☞ Use a pedestal light, head lamp, or other light that can be affix to person in order to gain visibility. A handheld light is best utilized when there isn't a need for hands to be used for balance, carrying items, and opening doors or otherwise.


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10	Working on or around extremely hot equipment or machinery		Heat exhaustion, burns and blisters	<ul style="list-style-type: none"> ☛ Drink plenty fluids and take breaks as needed in cool areas. Ensure machine guards are in place where appropriate. Wear appropriate PPE as determined by manufacture and/or required under University scope specific JHA-PTP.
11	Elevated work/Fall Protection		Broken bones, crush, bruising, lacerations	<ul style="list-style-type: none"> ☛ Employees on a work surface with an unprotected side or edge which is greater than 4ftGSO, 6ftCSO, 6ft MSO, above the lower level shall be protected from falling by the use of a fall protection system (guardrail, warning line system and/or personal fall arrest system)
12	Rigging		Struck by, caught in between, dismemberment	<ul style="list-style-type: none"> ☛ Only qualified personnel may perform rigging and subsequent lifting of material and equipment. A lift plan is required, but not limited to, for all lifts classified as "critical" as defined by CALOSHA, or when there is a high risk to personnel or equipment, or as determined by the Department of Safety & Risk Management. ☛ Prior to use, inspect material/equipment to be lifted as well as the rigging equipment. Review physical condition. Excess use, worn or defective rigging shall be immediately removed from service and tagged with DO NOT USE. ☛ Read and follow all manufactures labels/markings. DO NOT exceed lifting capabilities of the rigging equipment.
13	Working with/in hazardous agents and environments		Asphyxiation, respiratory complications and chemical exposure	<ul style="list-style-type: none"> ☛ Prior to commencing work that involves hazardous agents a Job Hazard Analysis (JHA) and/or Pre Task Plan (PTP) shall be completed. The JHA and/or PTP shall identify all substances, agents and environments that present a hazard and recommend hazard controls measures. Use substitution whenever possible prior to engineering, administrative or PPE control measures. Use approved and calibrated testing devised prior to starting work. Refer to SDS.
14	Trenching and excavation		Electrocution, electrical shock, trench collapse, hazardous atmosphere, falls, drowning and explosions	<ul style="list-style-type: none"> ☛ Contact Fire Department at least 72-hours prior to digging. Trenches > 5 feet deep require CALOSHA permit and addition shoring/shielding unless the excavation is made entirely of staple rock. ☛ Trenches >4 feet must have a safe means of access and egress. ☛ Maintain at least 2 feet of clearance from trench edges. ☛ Test atmospheric conditions prior to entry. ☛ Employees shall not work in excavations which there is an existing accumulation of water or where water is accumulating.
15	Using generators		Electrocution, electrical shock and electrical burn, carbon monoxide poisoning, cuts, bruising, pinching, blisters and broken bones	<ul style="list-style-type: none"> ☛ Always read and follow all manufactures labels/markings on the generator prior to use. Inspect the generator prior to us to ensure proper working order. ☛ Ensure the generator is properly grounded. ☛ Do not use a generator in an enclosed area and ensure exhaust fumes are vented away from workers. ☛ Use appropriate PPE when using a generator.

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16	Working on panelboards rated at 240V and below		Electrocution, electrical shock and electrical burn	⚠️ Ensure LOTO procedures have been strictly followed. Ensure the panelboard has been properly de-energized by using voltage meter. Only qualified person shall de-energize or re-energize panelboards. Refer to NPFA 70E Table 130.7(c)(9) to determine appropriate PPE and to determine if insulated tools are required when working with energized gear. Proper PPE must be worn.
17	Working on panelboards rated at 600V>240V		Electrocution, electrical shock and electrical burn	⚠️ Ensure LOTO procedures have been strictly followed. Ensure the panelboard has been properly de-energized by using voltage meter. Only qualified person shall de-energize or re-energize panelboards. Refer to NPFA 70E Table 130.7(c)(9) to determine appropriate PPE and to determine if insulated tools are required when working with energized gear. Proper PPE must be worn.
18	Working on panelboards with 600V class switchgear		Electrocution, electrical shock and electrical burn	⚠️ Ensure LOTO procedures have been strictly followed. Ensure the panelboard has been properly de-energized by using voltage meter. Only qualified person shall de-energize or re-energize panelboards. Refer to NPFA 70E Table 130.7(c)(9) to determine appropriate PPE and to determine if insulated tools are required when working with energized gear. Proper PPE must be worn.
19	Working with other 600V class equipment (277V through 600V nominal)		Electrocution, electrical shock and electrical burn	⚠️ Ensure LOTO procedures have been strictly followed. Ensure the panelboard has been properly de-energized by using voltage meter. Only qualified person shall de-energize or re-energize panelboards. Refer to NPFA 70E Table 130.7(c)(9) to determine appropriate PPE and to determine if insulated tools are required when working with energized gear. Proper PPE must be worn.
20	Working with NEMA E 2 motor starters (2.3kV through 7.2 kV)		Electrocution, electrical shock and electrical burn	⚠️ Ensure LOTO procedures have been strictly followed. Ensure the panelboard has been properly de-energized by using voltage meter. Only qualified person shall de-energize or re-energize panelboards. Refer to NPFA 70E Table 130.7(c)(9) to determine appropriate PPE and to determine if insulated tools are required when working with energized gear. Proper PPE must be worn.
21	Working with metal clad switchgear (1kV through 38kV)		Electrocution, electrical shock and electrical burns	⚠️ Ensure LOTO procedures have been strictly followed. Ensure the panelboard has been properly de-energized by using voltage meter. Only qualified person shall de-energize or re-energize panelboards. Refer to NPFA 70E Table 130.7(c)(9) to determine appropriate PPE and to determine if insulated tools are required when working with energized gear. Proper PPE must be worn.
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CORE EHS TRAINING REQUIREMENTS					ADDITIONAL NOTES		
			I	A	O	H	<p>⚓ As a general rule, NO Specific PPE is required for office personnel. In the event conditions require PPE, personnel will be relocated to designated safe zones.</p> <p>⚓ Personnel assigned to the T.S. Golden Bear will be required to wear sturdy, closed toed shoes.</p> <p>⚓ Personnel assigned to food service operations will be required to wear slip resistant, closed toed shoes.</p>
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	Basic First Aid /CPR/AED		Recommended				
IF CONDITIONS CHANGE: STOP WORK IMMEDIATELY-REVIEW WITH SUPERVISOR-DOCUMENT HAZARD-REVIEW WITH SRM							
EMERGENCY RESPONSE			HOUSEKEEPING & SECURITY				
1	First Aid Kit	Located in buildings	1	Is the work area/site Clean?	Ensure work area is clean daily and that any hazardous materials are properly disposed of daily		
2	AED	Located in all main buildings	2	Is the work area/site Secure?	Ensure lights are turned off and building is locked upon exiting work for the day.		
3	Emergency phone	Campus Police- 707-654-1111 or 911	3				
4	Evacuation	TBD based on Facility & Emergency					
REMINDER: IMMEDIATELY REPORT ALL INCIDENTS, REGARDLESS OF SEVERITY, TO YOUR SUPERVISOR AND THE DEPARTMENT OF SAFETY & RISK MANAGEMENT.							