



Job Hazard Assessment Welding & Inspection Technology

*(for specifics see below)

550 E. Hospitality Lane, Suite 200, San Bernardino, CA 92408
Phone: 909-388-6900 • www.sbccd.edu

Job Title(s):	This 'Job Hazard Assessment' applies to the following job classification(s) within the San Bernardino Community College District: Welding & Inspection Technology
Date:	March 2025
Reviewed by:	Office of Human Resources, Safety & Risk Management Department

Applicable Personal Protective Equipment (PPE) Required as per the Assigned Job Duties:	
- District-Approved Work Boots (ASTM F2413 for Electrical and Toe Protection, Slip-Resistant, Leather Material) - Face Shield - Gloves (work/nitrile/neoprene)	- Hearing Protection - Respiratory Protection - Safety Glasses/Goggles - Protective Clothing (Natural Fiber)

Required Trainings:	
- Arc Flash Safety - Back Safety - Bloodborne Pathogens - Chemical Hygiene - Chemical Spills - Compressed Gas - Driving/Transportation - Electrical Safety - Ergonomics - Fire Prevention - Hand & Power Tool	- Hazard Communication - Hazardous Waste - Hearing Conservation - Heat Illness Prevention - Injury and Illness Prevention - Lithium Battery Safety - Lockout Tagout - Personal Protective Equipment - Slips, Trips, and Falls - Venomous Snake Awareness - Welding, Cutting, & Brazing - Wildfire Smoke Prevention
This is not an exhaustive list of all training that will be required for this job classification(s), only of the training that is directly related to the job hazards.	

TASK	POTENTIAL HAZARDS	CONTROLS
This column identifies specific tasks which may expose employees to potential hazards. *Tasks are listed from the highest likelihood of occurrence to the lowest.	This column identifies hazards employees may encounter while completing assigned tasks. These hazards may cause injury or illness to employees when not properly mitigated or prevented through appropriate safety measures.	This column identifies control measures which when followed may help prevent or control identified potential hazards.



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TASK	POTENTIAL HAZARDS	CONTROLS
1. Constant standing and walking across work sites.	Strain, sprain, discomfort, temporary or permanent injury.	• Complete and adhere to Back Safety training. • Perform ergonomic stretches as needed and approved by manager. • Encourage and maintain good standing posture — feet should be about shoulder-width apart, with weight evenly distributed on your feet. • Stand tall with your shoulders upright and avoid leaning weight onto one side. • Take seated breaks to release back compression as approved by manager.
2. Exposure to welding fumes.	Smoke and/or chemical gas inhalation, respiratory conditions, and other similar human health hazards.	• Wear appropriate PPE, such as respiratory protection. • Ensure proper ventilation is available before beginning any task. • Utilize natural ventilation by opening bay doors. If natural ventilation is not available or sufficient, use mechanical ventilation options. • Use appropriate ventilation equipment to minimize exposure to, and extract, hazardous vehicle exhaust emissions. • Maintain a full understanding, and adhere to, manufacturer's operating procedures and recommended settings for most optimal performance. • Inspect ventilation equipment before use, including nozzles and hoses, to ensure equipment is in good condition and functioning properly. • Do not use equipment that is damaged and report any equipment that requires repair or replacement. Report to your manager any signs which indicate improper function or balance of the ventilation or exhaust system. • Maintain a full understanding of work area's layout for ventilation equipment to avoid issues with configuration and damage to equipment.
3. Exposure to loud noises for long periods of time (i.e., powered equipment, etc.).	Temporary and/or permanent hearing loss/damage.	• Complete and adhere to Hearing Conservation training. • Wear appropriate PPE such as hearing protection. • Maintain a full understanding, and adhere to Cal/OSHA permissible exposure limits (PEL) for noise based on sound levels and duration of exposure. • Minimize/Reduce noises where available (e.g., avoid operating several loud pieces of equipment at once).



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4. Welding, cutting, and brazing.	Cuts, bruises, burns, exposure to harmful chemicals/gases, fires and explosions.	• Complete and adhere to the Arc Flash Safety and Welding, Cutting, & Brazing Safety trainings. • Wear appropriate PPE such as work gloves, protective clothing (natural fiber), hard hat, face shield, and safety glasses/goggles. • Do not wear loose-fitting and/or frayed clothing that can catch sparks or hot slag. • Tie back hair if necessary. • Replace PPE when damaged. • Refer to Cal/OSHA Standards Title 8 for gas systems of welding, cutting, and brazing operations. • Inspect work area for potential fire hazards (e.g., oily rags, flammable materials, etc.) and remove hazards safely away from designated welding space. • Do not complete any welding without proper installation of safe guards. • Inspect equipment and supplies, including but not limited to compress gas cylinders, electrical cords, and ventilation hood, before use to ensure safety devices and equipment are in good condition and functioning properly. • Do not use equipment that is damaged and immediately report any equipment that requires repair or replacement. • Maintain a full understanding, and adhere to, proper welding, cutting, and brazing techniques to ensure safe use. Direct questions to manager before attempting task. • Utilize proper ventilation equipment (i.e., ventilation hoods, respirators, etc.) to control for air contaminants. Ensure adequate ventilation is available to minimize exposure to all potential airborne hazards including, but not limited to odors, gases, powders, aerosols, and irritants. • Allow hot materials and equipment to sufficiently cool down before properly handling and storing. • Store chemicals in an appropriate manner that meets manufacturer and HazMat storage requirements (e.g., temperatures, environment, etc.).



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5. Slip, trip, and fall hazards (both indoors and outdoors).	Cuts, bruises, sprains, strains, broken bones, head trauma, and other similar temporary or permanent injuries.	• Complete and adhere to Slips, Trips, and Falls training. • Wear appropriate PPE such as district-approved work boots. • Request assistance to reach any objects stored higher than what can be safely reached on a step stool. • Avoid and report wet or slippery areas with a wet floor sign, and report/mark any slip, trip, or fall hazards immediately. • Keep walkways clear and well-lit. • Secure items stored on the top shelf of storage cabinets. • Close storage drawers and put away step stools/other equipment after use. • Use cord covers when cords are located in walkways.
6. Occasional work outside.	Heat-related illness, sunburn, cold-related illness, frostbite, wildfire, severe weather (i.e., wind, rain, etc.).	• Complete and adhere to the Heat Illness Prevention and Wildfire Smoke Prevention and Venomous Snake Awareness training. • When possible, work during times of day with cooler temperatures. • Welcome to bring weather appropriate gear, such as sun-protective gear (i.e., hat, sunscreen, cooling rags) or layered clothing (i.e., gloves, jackets, etc.). • Drink plenty of water and supplement with electrolytes when needed. • Take rest breaks as needed and approved by manager. • Encourage manager-approved modifications of procedures that align with current weather conditions (i.e., air quality, wind, rain, lightning storms, etc.). • Use appropriate PPE such as district-approved work boots and respiratory protection.



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7. Handling chemicals to complete welding work (i.e., metal working fluids, oils, etc.).	Toxic/chemical exposure, burns, rashes, and other similar human hazards.	• Complete and adhere to Chemical Hygiene, Chemical Spills, Hazardous Waste, Personal Protective Equipment, and Hazard Communication trainings. • Refer to each product's SDS to determine the appropriate respiratory protection and other PPE requirements. • Wear appropriate PPE such as respiratory protection, safety glasses/goggles, and nitrile gloves. • Replace PPE when damaged. • Ensure adequate ventilation is available to minimize exposure to all potential airborne hazards including, but not limited to odors, gases, powders, aerosols, and irritants. Open doors/windows/vents to help with air movement. • Follow manufacturer's instructions for product's appropriate application, storage, and disposal. • Store chemicals in appropriately marked and maintained locations to ensure proper storage temperatures and environments. • Do not ingest chemicals. • Avoid inhaling chemical vapors and nuisance/respirable dusts. • Avoid direct contact with bare skin. • Follow mixing instructions. • Wash hands regularly, after handling chemicals and removing PPE. • For additional guidance regarding hazardous materials, contact your Hazardous Waste Management Plan designee.



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TASK	POTENTIAL HAZARDS	CONTROLS
8. Use and/or maintain electrically powered equipment (i.e., drill, saw, etc.).	Cuts, crushed limbs, pinches, electrical shock.	• Complete and adhere to Hand and Power Tool, Lithium Battery Safety, and Lockout-Tagout trainings. • Maintain a full understanding, and adhere to, proper equipment techniques to ensure safe use. Direct questions to manager before attempting task. • Do not use equipment that is damaged and report if equipment needs repair or replacement. • Make sure safety guards are in place. • Disconnect from power sources before servicing. Use lockout-tagout procedures (LOTO). • Wear appropriate PPE such as work gloves, safety glasses/goggles and district-approved work boots. • Do not wear loose-fitting clothes that could get caught in moving parts and tie hair back if necessary. • Maintain active awareness of direct tasks and surroundings when completing a task using powered equipment, make sure path is clear and well-lit. • If using drill bits, make sure they are sharp and not cracked. • Position yourself and bystanders away from the plane of a rotating accessory. • Maintain a firm grip on the powered equipment and position your body and arm to allow you to resist kickback force. • Always keep proper footing and balance. • Never position equipment so it becomes a tripping hazard. • Maintain adequate and accurate signage visible location when applicable. • Maintain neutral position/postures for wrists, arms, and shoulders. • Always power down equipment before cleaning or inspecting the machine. • Never lay powered equipment down until it has completely shut down. • Never try to catch a falling tool. • Store tools appropriately. Place tools at the back of a counter when not in use, with blades covered or sharp edges away from you.



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TASK	POTENTIAL HAZARDS	CONTROLS
9. Use and/or maintain sharp tools and equipment (i.e., drill, saw, etc.)	Cuts, punctures, lacerations.	• Maintain a full understanding, and adhere to, proper cutting techniques to ensure safe use. Direct questions to manager before attempting task. • Use the right tool for the job and only use the tool the way it was designed. • Wear PPE such as work gloves and safety glasses/goggles. • Do not use equipment that is damaged and report any equipment that needs repair or replacement. • Ensure tool blades are sharp and replace blades if dull. • Work in a well-lit space. • Ensure all guards and safety devices are in place and functioning properly. • If possible, use mechanical device to hold item in place. • Cut away from body and make sure no body parts are in the cutting path. • Do not use excessive pressure when cutting. • Maintain active awareness of direct tasks and surroundings when completing a task using sharp tools or equipment. • If the machine involves moving parts, do not wear loose-fitting clothes that could get caught in moving parts and tie hair back if necessary. • Unplug devices before dislodging items, disassembling, or cleaning. • Carry tools in a tool belt or raise and lower them with a hand line, using only one tool at a time. • Never reach towards a blade or into any sharp part of the equipment. • Never try and catch a falling tool. • If tool has a retractable blade, retract blade immediately after use. • Store tools appropriately. Place tools away from the edge of the table when not in use, with blades covered or sharp edges away from you.



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TASK	POTENTIAL HAZARDS	CONTROLS
10. Using and/or maintaining compressed gas equipment (e.g., air compressors, pneumatic tools, etc.).	Cuts, impact injuries, crushed limbs, pinches, electrical shock.	• Complete and adhere to Compressed Gas Safety training. • Maintain a full understanding, and adhere to, proper compressed gas equipment techniques to ensure safe use. Direct questions to manager before attempting task. • Inspect equipment before use, including compressed gas tanks and hoses, to ensure equipment is in good condition and functioning properly. • Do not use equipment that is damaged and report any equipment that needs repair or replacement. • Make sure safety guards are in place and a safe and approved source of compressed gas is secured prior to beginning any task. • Wear appropriate PPE such as work gloves, safety glasses/goggles, respiratory protection and district-approved work boots. • Do not wear loose-fitting clothes that could get caught in moving parts and tie hair back if necessary. • Maintain active awareness of direct tasks and surroundings when completing a task using powered equipment, make sure path is clear and well-lit. • Maintain a proper footing/balance with a firm grip on the powered equipment and position your body and arm to allow you to resist kickback force. • Never position equipment so it becomes a tripping hazard. • Maintain adequate and accurate signage placed in a conspicuous location when applicable. • Maintain neutral position/postures for wrists, arms, and shoulders. • Always power down equipment fully before cleaning/inspecting the machine. • Never lay powered equipment down until it has completely shut down. • Never try to catch a falling tool. • Store equipment appropriately, away from sources of sparks/heat, with any blades covered or sharp edges away from you. • Treat unlabeled or unknown tanks of compressed gasses as though they are of the highest risk until further guidance can be obtained from your manager.



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TASK	POTENTIAL HAZARDS	CONTROLS
11. Frequent lifting, carrying, pushing, and/or pulling of light to moderate amounts of weight.	Strain, sprain, discomfort, temporary or permanent injury.	• Complete and adhere to Back Safety training. • Use a step stool to safely reach/lift and request assistance to reach any objects other than what can be safely reached/lifted. • Store heavy equipment and items on lower shelves/storage units. • Avoid placing equipment higher than can be safely reached. • When carrying objects, ensure to hold objects close to the center of the body, with arms and elbows tucked close to the body before moving. • Use proper lifting techniques, bend with the knees and waist (hinge), lifting with bent knees using legs and an upright/straight back. • Use the palms of your hands and fingers to grip the load. • Avoid bending down into non-ergonomic body contortions. When needed, bend or squat, bend with the knees and waist (hinge) to avoid back strain. • Check your route for clearances and obstacles. • Breakdown large & heavy objects to make them more manageable. • Team lift large and/or heavy objects that cannot be broken down. • Work directly in front of you. Do not twist your body while carrying a load. • Use a dolly or cart when feasible, to push not pull a heavy load. • If working on a surface that is elevated or low, use equipment with adjustable long handle to reach area safely. • For additional lifting guidance, contact your manager.



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12. Work around moving vehicles (e.g., traffic control, incidents near traffic, etc.).	Cuts, bruises, sprains, broken bones, head trauma, exposure to harmful chemicals, fires and explosions.	- Identify and adhere to designated vehicle routes and walking areas. - Maintain awareness of surroundings when working around vehicles to avoid walking in non-designated areas and/or collisions into people or vehicles. - Do not be distracted by hand-held radio/phone while near vehicles. - Keep vehicle routes and walking areas free of obstructions (with spills or new obstructions being cleaned up promptly). - Maintain adequate and accurate barriers or signage of routes and hazards.
13. Operating a vehicle.	Cuts, bruises, sprains, broken bones, head trauma, exposure to harmful chemicals, fires and explosions.	- Complete and adhere to all appropriate Driving/Transportation trainings. - Wear a seatbelt while in a vehicle. - Follow traffic rules and laws. - Maintain full awareness of surroundings while operating a vehicle (i.e., checking mirrors, blind spots, etc.). - Use defensive driving techniques (i.e., maintaining awareness of surroundings, keep distance, monitor speed to legal limits, etc.) to anticipate and avoid dangerous driving situations. - Park in authorized spaces and do not obstruct traffic. - Do not use hand-held radio/phone while operating vehicles. - Never leave a vehicle unattended while the engine is still running. - Place the car in park gear and engage the emergency brake before exiting. - Turn off the engine and allow for the vehicle to sufficiently cool down before touching engine and related components. - Maintain awareness when filling fuel tanks to ensure no spills. - Never use a source of fire or sparks (i.e., smoking, cell phones, etc.) when refueling.



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14. Occasional use of forklifts when transporting large materials.	Falls, bumps, bruises, sprains, strains, broken bones, head trauma.	• Allow only employees with current applicable approvals to work on a forklift. • Maintain a full understanding, and adhere to operating procedures of the equipment. Direct questions to manager before attempting task. • Inspect work area to make sure there is ample clear space for the task to be completed in a safe manner without any obstructions. • Inspect equipment, including seatbelt, before use, to ensure safety devices and equipment are in good condition and functioning properly. • Do not use equipment that is damaged and report any equipment that requires repair or replacement. • Wear a seatbelt during forklift operation. • Drive only within designated vehicle routes. • Maintain a clear line of sight, unobstructed by any load being transported. • Ensure the load is stable by avoiding unbalanced loads and/or overloading. • Ensure the forklift is in the appropriate gear when completing a task (i.e., parked/stopped when lifting a load, drive to move forward, etc.). • Maintain a full awareness of surroundings when completing a task in a forklift to avoid any vehicular accidents while operating.
15. Environmental hazards.	Cuts, bruises, sprains, strains, broken bones, head trauma, and other similar temporary or permanent injuries.	• Open only one drawer at a time and close when finished to prevent file cabinets from tipping. • Place storage/furniture to allow for appropriate flow of traffic in office space. • Maintain awareness of surroundings when traveling through office to avoid collisions into furniture or people. • Identify sharp edges of furniture/fixtures and cover when available. • Avoid using furniture/fixtures or equipment that is damaged and report any furniture/fixtures or equipment that needs repair or replacement.



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16. Use of electrical equipment (e.g., extension cords, GFCI's, etc.).	Electric shock, fires, bodily injury.	• Complete and adhere to Electrical Safety training. • Inspect equipment, including electrical cords before use, to ensure safety devices and equipment are in good condition and functioning properly. • Do not use equipment that is damaged and report any equipment that requires repair or replacement. • Avoid having open liquid containers near electrical panels and equipment and be cautious when liquids are present nearby. • Do not plug or unplug electric equipment when hands or body are wet. • Disconnect equipment from power source before servicing. • Use ground-fault circuit interrupters (GFCI's) where necessary. • Do not daisy-chain extension cords (i.e., plugging in an extension cord into another extension cord for extended use). • Use cord guards when necessary and make sure cords are not in an area where trips or tangles are possible. • Pull plug from the head, not the cord.
17. Occasional static postures, frequent and/or repetitive movements.	Strain, sprain, discomfort, temporary or permanent injury. Carpal Tunnel Syndrome from writing and typing.	• Complete and adhere to Ergonomics training. • Perform ergonomic stretches as needed and approved by manager. • Adjust workstation to personal settings that align with ergonomic standards. • Ensure the computer monitor is adjusted to allow neutral lines of eyesight.



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18. Occasional computer work.	Eye strain due to improper lighting or excess screen time on computers.	• Use adequate lighting adjustments to the individual as needed. • Use “No Glare” screens where possible or adjust the placement of the monitor to eliminate glare. • Encourage use of “Blue-Light” glasses to protect eyes and reduce the amount of ultraviolet light exposure. • Follow the 20/20/20 rule. For every 20 consecutive minutes looking at a computer monitor, look at something 20 feet away, for 20 seconds.
19. Fire safety and emergency preparedness.	Various human health and life hazards.	• Complete and adhere to Fire Prevention training. • Know where fire extinguishers and other emergency safety equipment are located at in work areas. • Know emergency routes and emergency preparedness plans. • Always keep all exits and stairways free and clear of obstructions. • Participate in mock emergency drills.
20. Exposure to bodily and/or unknown fluids.	Exposure to bloodborne pathogens, and other various human health and life hazards.	• Complete and adhere to Bloodborne Pathogens Microlearning training. • Notify custodial services immediately of any bodily and/or unknown fluids found in the workspace for cleaning. • Block off and mark the area of with found fluids with a sign. • Do not touch fluid with bare skin.

***Note:** This Job Hazard Assessment applies to the following job classification(s) within the San Bernardino Community College District: Laboratory Assistant II – Welding and Professor Welding.

****Note:** This Job Hazard Assessment applies to employees within the Welding Department involved in laboratory sections.



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	Regulation	Welding & Inspection Technology (9 hours 24 minutes)	Time (min)	Frequency
Safety	Cal/OSHA 3203 , 2945 Appendix D	Arc Flash Safety	20	One-Time
	Cal/OSHA 5191(f)	Chemical Hygiene Plan	25	One-Time
	Cal/OSHA 5191(f)	Chemical Spills Overview	24	One-Time
	Cal/OSHA 1740	Compressed Gas Safety Cal/OSHA	60	One-Time
	SBCCD AP 7420	Defensive Driving	60	One-Time
	Cal/OSHA 3314	Electrical Safety	27	One-Time
	Cal/OSHA 1707	Hand & Power Tool Safety	30	Initial + Annually
	Cal/OSHA 5098(a)(4) , 5097(d)(5)(A)&(B) , 5099(a)	Hearing Conservation	30	Initial + Annually
	Cal/OSHA 3395 , 3396	Heat Illness Prevention	23	Initial + Annually
	Cal/OSHA 5185	Lithium Battery Safety	5	One-Time
	Cal/OSHA 3314(j)	Lockout/Tagout Safety Cal/OSHA: Comprehensive	60	One-Time
	Cal/OSHA 5192 (e) & (q)(6)	Managing Hazardous Waste in California	15	One-Time
	Cal/OSHA 3380(c)	Personal Protective Equipment	60	One-Time
	SBCCD AP 7420	Utility Cart Safety	19	One-Time
	Cal/OSHA 3362	Venomous Snake Awareness	34	One-Time
	Cal/OSHA 4799 , 4848(a) , 1537(a)	Welding, Cutting & Brazing Safety Cal/OSHA	30	One-Time
	Cal/OSHA 5141.1(c)	Wildfire Smoke Protection	25	One-Time
TOTAL MINUTES		547 minutes (9 hours 7 minutes)		
HR	FERPA Title 34(99)	FERPA Confidentiality of Records	17	One-Time
TOTAL MINUTES		17 minutes		

***NOTE:** All employees must complete required training to ensure they can safely perform their assigned duties. These trainings will be assigned at the time of hiring, when entering a different position with new assigned duties, and periodically throughout their employment. Training may also be assigned periodically due to updates in policies or procedures and/or following any injuries or instances of non-compliance, etc. The outlined frequency represents the minimum training intervals required following hiring to maintain competence and compliance.