



UNIVERSITY OF
SASKATCHEWAN

Job Safety Analysis (JSA)

College of Engineering Personnel

Department: Mechanical Engineering

Health, Safety and Environmental Management System

Version 1.0

Created: October, 7, 2011

Job Safety Analysis Summary Information

College: College of Engineering **Department:** Mechanical Engineering

Job Activities: Office Work/Clerical/Administrative

Locations: All departmental office space

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Relevant OHS Legislation Relating to the Following JSA:

1. Saskatchewan Occupational Health and Safety Act
2. Saskatchewan Occupational Health and Safety Regulations
3. Federal Legislation – Bill C-45

The following Job Safety Analysis outlines job-specific activities, known related hazards together with hazard control measures used to help maintain a safe and healthful work environment for each functional work group at the University of Saskatchewan.

Supervisors must observe practical demonstration that employees are technically competent and safe in the completion of job activities; any observation of sub-standard acts or conditions that increase risk of injury or illness to personnel or others requires immediate and documented follow up training relating to the specific tasks.

JSA Approved by:

_____ Signed: signed copy on file_____ Date: _____
 Title

_____ Signed: signed copy on file_____ Date: _____
 Title

Table of Review and Revisions:

Revision Frequency: Annually

Revision Date (DD-MM-YYYY)	Version Number	Author	Changes Made

Job Activities	Related Hazards	Hazard Controls
Computer Workstation Use:		
<ul style="list-style-type: none"> Using task chair 	<ul style="list-style-type: none"> Sustained and/or awkward postures Prolonged computer use without breaks 	<ul style="list-style-type: none"> Use an adjustable task chair and know how to adjust it for optimal posture. <i>Refer to the Office Ergonomics Self Help Manual section on step by step chair adjustment</i> Check posture frequently and readjust chair as required Use the recline function on your chair (if available) periodically to reduce stress on the spine Take regularly scheduled breaks <i>See Office Ergonomics Self Help Manual section on work organization</i> Alternate tasks to provide a change in posture as able. <i>See Office Ergonomics Self Help Manual section on work organization</i>
<ul style="list-style-type: none"> Moving while sitting in rolling chair 	<ul style="list-style-type: none"> Fall from unstable chair or if chair rolls away 	<ul style="list-style-type: none"> Ensure the chair is in good operating condition. Arrange for repair if required Rolling swivel office chairs should have a five leg base
<ul style="list-style-type: none"> Using computer input devices 	<ul style="list-style-type: none"> Contact stress Repetitive activities 	<ul style="list-style-type: none"> Adjust keyboard tray. <i>Refer to Office Ergonomics Self Help Manual section on keyboard tray and input device adjustment</i> Place CPU in convenient location if accessed frequently. <i>See Office Ergonomics Self Help Manual section on workstations</i> Regularly clean keyboard and mouse according to manufacturer's directions
<ul style="list-style-type: none"> Viewing video display monitor(s) 	<ul style="list-style-type: none"> Dirt on keyboard or mouse Glare when viewing monitor 	<ul style="list-style-type: none"> Clean high touch areas frequently Properly adjust monitor(s): <i>Refer to Office Ergonomics Self Help Manual section on monitor adjustments. See Office Ergonomics Self Help Manual section on lighting</i>
<ul style="list-style-type: none"> General computer use Transcribing documents while using computer 	<ul style="list-style-type: none"> Constraints on limb mobility Awkward neck posture 	<ul style="list-style-type: none"> Ensure leg space under desk is clear of clutter. Use a document holder if transcribing to the computer. <i>See Office Ergonomics Self Help Manual section on document holders.</i> If medically appropriate, perform general stretches to reduce fatigue. <i>See Office Ergonomics Self Help Manual section on office stretches.</i> Attend ergonomics training to recognize and control musculoskeletal injury (MSI) hazards. <i>For further information refer to the Saskatchewan Code of Practice for Video Display Terminals</i> URL: http://www.labour.gov.sk.ca/VDT/ <i>A formal ergonomic evaluation can be obtained by contacting Workplace Safety and Environmental Protection at 966-4700.</i>
Manual Material Handling (MMH):		
<p>General MMH activities:</p> <ul style="list-style-type: none"> Lifting and Lowering Carrying; one and two handed Holding items Pushing Pulling Retrieving equipment, instruments, materials and supplies Moving computer equipment and peripherals (CPU, monitor, printer) Use of rolling carts, dollies. 	<ul style="list-style-type: none"> High loads and forces Sustained or awkward postures Slips, trips and falls Constraints on movement or mobility during material handling activities Contact stress from items being handled, sharp edges Repetitive activities 	<p>In General:</p> <ul style="list-style-type: none"> Get help if you cannot handle heavy items Use lifting/carrying aids when possible including: carts, hand trucks, dollies and elevators where available Maintain active awareness of the environment Take regularly scheduled stretch breaks Do not rush Guard or cover any sharp edges on equipment Obtain training to recognize and control MSI hazards. <p>When Lifting:</p> <ul style="list-style-type: none"> Use good lifting technique. (Detailed in <i>Office Ergonomics Self Help Manual section on material handling</i>) Report any structural damage or trip hazards or remove if possible <i>See Office Ergonomics Self Help Manual section on musculoskeletal injuries</i> <p>When Carrying:</p> <ul style="list-style-type: none"> Plan the activity; check path before carrying materials, <i>step only where your eyes have looked</i>

Job Activities	Related Hazards	Hazard Controls
		<ul style="list-style-type: none"> Avoid carrying bulky items that impede your forward view, especially on stairs Use handles if available Purchase items that have handles if they are heavy Do not carry items up step ladders with both hands <p>When Pushing and Pulling:</p> <ul style="list-style-type: none"> Push rather than pull carts Do not lift carts or dollies over obstacles Do not overload carts and dollies
Storage of Materials and Supplies:		
<ul style="list-style-type: none"> Moving materials to and from shelving in storage rooms and office spaces 	<ul style="list-style-type: none"> Items stored in inappropriate locations or level Impact from falling items, insecurely stored Slips, trips and falls 	<ul style="list-style-type: none"> Store heavy items at waist height, medium weight items at low height and light items at higher height <i>See Office Ergonomics Self Help Manual section on storage of office materials</i> Keep travel ways clear. Regularly inspect storage areas to ensure shelves and materials are secure Verify load capacity of shelving and do not overload shelving Obtain training on proper storage and handling Have delivery personnel deposit heavy items close to where they will be stored <i>See Office Ergonomics Self Help Manual section on storage of office materials</i>
<ul style="list-style-type: none"> Climbing ladders 	<ul style="list-style-type: none"> Improper use of stepladders, step stools, rolling stairs resulting in a fall 	<ul style="list-style-type: none"> Only use approved step-stools or ladders <i>Refer to section below in this JSA, regarding ladder use</i>
<ul style="list-style-type: none"> Moving through laboratories, shops and other areas with hazardous substances 	<ul style="list-style-type: none"> Incidental exposure to hazardous materials 	<ul style="list-style-type: none"> Have a basic knowledge of any hazardous materials to which you might be exposed. Refer to Workplace Hazardous Materials Information System (WHMIS) documents for specific information
Positional Work and Mobility:		
<p>Sitting: (other than computer use)</p> <ul style="list-style-type: none"> Operating equipment (as applicable) Doing paperwork at desk In meetings 	<ul style="list-style-type: none"> Awkward posture Contact stress Repetitive movements 	<ul style="list-style-type: none"> If sitting for prolonged periods, use an adjustable task chair, if available. Rotate or change tasks and positions as often as is practical. Arrange seating in meetings to avoid prolonged twisting of the back and neck
<p>Standing:</p> <ul style="list-style-type: none"> Talking to others in one location for extended periods Filing Vertical component file systems (manual and electric) 	<ul style="list-style-type: none"> Sustained postures Contact stress 	<ul style="list-style-type: none"> Anti-fatigue mats are required for workers who stand for extended periods. <i>See Office Ergonomics Self Help Manual section on standing tasks</i>
<p>Reaching:</p> <ul style="list-style-type: none"> Items on desktop Items on overhead shelving Low file drawers at workstation High file drawers or deep drawers 	<ul style="list-style-type: none"> Awkward and/or sustained posture Material falling when working overhead 	<ul style="list-style-type: none"> Organize desktop so frequently handled items are in close reach (e.g. telephone) <i>See Office Ergonomics Self Help Manual section on workstations</i> Use safety glasses (or goggles) if working overhead Use step ladder or step stool to avoid working overhead as appropriate If medically appropriate, perform general stretches to reduce fatigue. <i>See Office Ergonomics Self Help Manual section on office stretches</i>
<p>Bending and Kneeling:</p> <ul style="list-style-type: none"> Filing in low drawers Adjusting equipment Picking up materials from the ground 	<ul style="list-style-type: none"> Awkward and/or sustained posture High forces Contact stress 	<ul style="list-style-type: none"> If kneeling on hard flooring for extended periods, use a kneeling pad or knee pads. Rotate or change tasks and positions as often as is practical

Job Activities	Related Hazards	Hazard Controls
Walking: <ul style="list-style-type: none"> • Travelling to destinations <ul style="list-style-type: none"> - Within facilities - Between facilities - In construction zones • Assisting co-workers, students, patients or other clients 	<ul style="list-style-type: none"> • Slips, trips and falls • Pedestrian, bicycle and vehicular traffic 	<ul style="list-style-type: none"> • Wear appropriate footwear for the weather conditions. • Do not rush; plan for extra time for travel • Use hand-rails on stairs • Clean minor liquid floor spills immediately • Take alternate route, if possible, to avoid walking outdoors if conditions are slippery or if weather is inclement • Use pedestrian crosswalks when crossing streets • Contact FMD to report slip hazards (indoors or outdoors) • Use safety mirrors at intersections of blind and/or busy walkways • Use caution when opening or approaching doors with no windows in them. • Remove or report any tripping hazards immediately • Do not enter or work in construction areas unless authorized by construction site supervisor • Do not take short cuts through construction or renovation zones • If required to be in construction zone, you must follow all posted safety regulations (ex. hard hat, safety glasses and safety boots)
Ladder or Stool Use: (as applicable)		
<ul style="list-style-type: none"> • Step ladders • Step stools 	<ul style="list-style-type: none"> • Ladder on uneven, slippery or soft ground • Improper ladder placement 	<ul style="list-style-type: none"> • Ensure the ground the ladder is set upon is stable; consider the surroundings when setting up ladder (footing solid and level) • Set ladder at proper working ratio 4 to 1, visual inspection for damage
	<ul style="list-style-type: none"> • Insufficient contact with ladder 	<ul style="list-style-type: none"> • Maintain three-point contact (2 hands and 1 foot, then 1 hand and 2 feet) as you climb stepladder
	<ul style="list-style-type: none"> • Improper postures on ladder 	<ul style="list-style-type: none"> • Do not lean past the ladder rails, rather reposition the ladder to reduce the reach • Do not stand on top 2 rungs of any step ladder
	<ul style="list-style-type: none"> • Damaged ladder 	<ul style="list-style-type: none"> • Inspect ladder or stool prior to use, identify any bent or otherwise damaged parts • Never use a painted wooden ladder (paint can hide structural defects or damage) • Report any problems with the ladder and do not use if problems are identified
	<ul style="list-style-type: none"> • Improper storage of ladder 	<ul style="list-style-type: none"> • Store the ladder properly when not in use
	<ul style="list-style-type: none"> • Using the wrong size or type 	<ul style="list-style-type: none"> • Use the correct size and type of ladder
	<ul style="list-style-type: none"> • Spreader bars not secure 	<ul style="list-style-type: none"> • Ensure spreader bars on a step ladder are in the locked position
	<ul style="list-style-type: none"> • Ladder placed where it can be knocked over by others 	<ul style="list-style-type: none"> • Put warning signs out when working in a high traffic area • Have attendant monitor traffic or adjust work schedule to low traffic periods
	<ul style="list-style-type: none"> • Overhead hazards (electrical wiring, pipes, ducting) 	<ul style="list-style-type: none"> • Inspect area for any overhead hazards (ducting, piping, plumbing or wiring)
General Office Tasks		
Phones <ul style="list-style-type: none"> • Office telephones • Cellular phones 	<ul style="list-style-type: none"> • Awkward posture • Sustained posture • Repetitive activity 	<ul style="list-style-type: none"> • Use a headset or speakerphone (if possible) when on the phone for long periods or if keyboarding with two hands at the same time. <i>Refer to Office Ergonomics Self Help Manual section on phone use</i> • Regularly clean the phone,
Office Equipment <ul style="list-style-type: none"> • Paper shredder • Electric stapler • Paper cutter • Binding equipment • Photocopier • Printer • Fax machine • Paper cutter • Fans 	<ul style="list-style-type: none"> • Awkward posture • Sustained posture • Repetitive activity • High forces • Unstable equipment • Pinch points • Dirt on keyboard, mouse or other high touch areas • Electrical shock • Entanglement with rotating 	<ul style="list-style-type: none"> • Ensure safe-guards are in place and functioning (ex. paper shredder, paper cutters, binding equipment) • Ensure long hair, loose clothing or jewelry is secured to prevent entanglement • Clean and maintain office equipment regularly according to manufacturer's instructions • Regularly inspect for worn or damaged electrical equipment (cords, plugs, switches) • Do not allow cords to cross travel ways unless temporary and properly secured (use floor plugs if applicable)

Job Activities	Related Hazards	Hazard Controls
• Other (specialized)	equipment	<ul style="list-style-type: none"> • Never have electrical cords under moving equipment or chairs • Never remove the ground prong on a 3-prong plug • Use surge-protected power bars • Do not overload circuits • Take any damaged equipment out of service, and report it • Use proper procedures to operate equipment (refer to manuals and obtain training as necessary) • Maintain equipment according to manufacturer's instructions • Maintain an organized work space • Do not rush when performing work tasks
• Laptop Computer	<ul style="list-style-type: none"> • Awkward posture • Sustained posture • Repetitive activity • Hot surfaces 	<ul style="list-style-type: none"> • If using laptop computers for extended periods or as your main computer use a laptop stand and separate keyboard. <i>See Office Ergonomics Self Help Manual section on laptop use.</i> • Operate laptops on solid surfaces that allow adequate ventilation • Always power-down laptops placed into carrying cases or drawers
• Filing cabinets	<ul style="list-style-type: none"> • Pinch points • Contact with or tripping on open file cabinet drawers • Sharp objects (staples, blades, edges of equipment) • Awkward posture • Sustained posture • Repetitive activity • High forces • Unstable equipment 	<ul style="list-style-type: none"> • Only open file drawers one at a time to prevent tipping. • Only use handles to open and close file cabinets <i>See Office Ergonomics Self Help Manual section on file cabinet use</i>
<ul style="list-style-type: none"> • Baseboard or space heaters • Coffee makers 	<ul style="list-style-type: none"> • Hot surfaces • Hot liquids 	<ul style="list-style-type: none"> • Ensure combustible materials are at least 3 feet from any baseboard or electric space heater • Space heaters must be CSA certified • Coffee makers should have automatic shutoff or be carafe or single cup system
Interacting with the Public, U of S Personnel and Students		
<ul style="list-style-type: none"> • Reception duties • Counseling and advising • Lecturing and teaching • Attending meetings • Shipping and Receiving • Walking about Campus 	<ul style="list-style-type: none"> • Physical violence or threat of violence (includes threat of suicide) • Verbal harassment 	<ul style="list-style-type: none"> • Report suspicious activities or persons to Campus Safety at 966-5555. • If you feel there is a threat of violence, then contact Campus Safety at 5555 and/or call 911. • Refer to the University Violence Policy http://www.usask.ca/university_secretary/policies/health/3_09.p hp. Details are available at www.usask.ca/wsep. • If harassed on the telephone or in person, report to your supervisor and refer to the Harassment Policy and Procedure • Use SafeWalk service if you feel insecure when walking around campus after work hours http://www.ussu.ca/safewalk/index.shtml
• Contact with contagious persons	• Contagious illnesses	<ul style="list-style-type: none"> • Avoid using strongly scented products. WSEP information on perfumes and scents is available at www.usask.ca/wsep • If someone has a medical emergency, follow First Aid procedures appropriate for the situation and call Campus Safety (966-5555) and Emergency Medical Services at 911 as necessary • Wash hands regularly (use of hand sanitizers does not replace good hand washing practices). Hand washing guidelines are available at: http://www.saskatoonhealthregion.ca • Clean items regularly
Special Circumstances: <ul style="list-style-type: none"> • Working alone 	• Lack of assistance should an emergency arise	<ul style="list-style-type: none"> • Use caution and notify someone if you are working alone after normal working hours. Refer to the Working Alone Policy Procedures for further details. • Contact person on a regular basis and notify upon your departure

Job Activities	Related Hazards	Hazard Controls
Physical Environment:		
General Illumination (other than office spaces): <ul style="list-style-type: none"> General lighting 	<ul style="list-style-type: none"> Eyestrain Insufficient visibility to detect other hazards Insufficient visibility to navigate safely 	<ul style="list-style-type: none"> Report any areas that you feel have insufficient lighting to your supervisor Notify Building Services to replace any burnt out light bulbs
Thermal: <ul style="list-style-type: none"> Work in office space Travelling between buildings or off campus 	<ul style="list-style-type: none"> Wide temperature variation Extremes of temperature Difficulty in modulating temperature in spaces heated with radiators Burns if direct contact with radiator could cause burns Drafts from ventilation systems 	<ul style="list-style-type: none"> Report any concerns with temperature to your supervisor Improve ventilation during hot days by opening or closing windows (if possible) Adjust window coverings Use a fan On hot days workers should follow guidelines established by their department Dress appropriately for weather conditions Stay hydrated Avoid direct contact with radiating heaters Orient workstation so draft from vents is not directly on you
Air Quality: <ul style="list-style-type: none"> Respiration during work 	<ul style="list-style-type: none"> Airborne contaminants: dust, fumes, gases, mould, asbestos, offensive odors, allergens Excessive humidity Insufficient or inappropriate ventilation 	<ul style="list-style-type: none"> Report problems with air quality to supervisor and FMD Work Control If poor air quality is an acute health concern, then vacate the area Look for evidence of moisture during regular inspections Consider sensitivities and allergies of others For more information refer to http://www.usask.ca/dhse/occupationsafety/indoor_scent.php
Noise Exposure: <ul style="list-style-type: none"> Possible exposure to noise during a presentation, working with equipment, or from working in a noisy area 	<ul style="list-style-type: none"> Short or long term exposure to noise levels greater than 85 dBA Distraction from other activities 	<ul style="list-style-type: none"> Report any noise hazards to your supervisor that are new or not identified Ensure equipment is in good repair to avoid excessive noise Consider noise attenuation measures (move equipment, noise enclosure) Use hearing protection as necessary (ear plugs or ear muffs) Further information on hearing conservation, noise level measurement and audiometric testing can be obtained by contacting WSEP (966-4700)
General Facilities Use and Housekeeping <ul style="list-style-type: none"> General office activity 	<ul style="list-style-type: none"> Trip hazards Allergens Biohazards in washrooms Structural issues Any other facilities issues such as broken windows, inoperative elevators, spills, washroom equipment malfunctions Asbestos 	<ul style="list-style-type: none"> Keep your work area tidy and organized <p>Reporting Facility Issues:</p> <ul style="list-style-type: none"> First, report any facilities issues to your supervisor, then, if directed to do so, call Facilities Management Work Control at 966-4496 or email: workcontrol.centre@usask.ca Contact WSEP for further information on specific safety issues relating to facilities maintenance (966-4700)
Fire Safety <ul style="list-style-type: none"> General office activity 	<ul style="list-style-type: none"> building fire 	<ul style="list-style-type: none"> Refer to the local Emergency Response Plan for specific information on fire safety and building evacuation procedures
Chemical Safety <ul style="list-style-type: none"> Using common office chemicals such as cleaners, solvents, inks, toners, correction fluid and adhesives Walking through a lab or area where chemicals are stored or in use 	<ul style="list-style-type: none"> Irritating, toxic, or poisonous chemicals 	<ul style="list-style-type: none"> Have a list of all chemicals used or stored in your work area Be aware of all chemicals that you might be exposed to in other areas of your unit such as labs or shops Obtain Workplace Hazardous Materials Information System (WHMIS) training (contact WSEP for course details) Maintain Material Safety Data Sheets (MSDS's) for each chemical in your work area. Note some common domestically used products do not require MSDS sheets. In these cases, refer to the warnings and instructions on the manufacturer's label Do not mix cleaning chemicals as they may rapidly emit toxic gasses.

Job Activities	Related Hazards	Hazard Controls
Sustainability • General office activity	• Waste from office activities may contaminate environment or contribute to landfill burden	• Recycle paper, plastic, fluorescent light bulbs, printer cartridges and any other recyclable materials according to facility policies and available local programs. Refer to: http://facilities.usask.ca/sustainability/
Driving:		
• On campus • Within city • On highway • On private parking lots	• Poor weather conditions	• Do not drive if weather/road conditions are too hazardous • Have a cellular phone in case of emergency • During winter months additional supplies, preparations and driving techniques are recommended http://www.sgi.sk.ca , http://www.mto.gov.on.ca , http://www.ccohs.ca/oshanswers/safety_haz/icesnow.html
	• Vehicle failure	• Do a visual inspection before driving; SGI gives resources in this area. http://www.sgi.sk.ca/index.html • Safely stop driving if vehicle is failing • Adhere to regular maintenance schedule
	• Driver fatigue	• Take regular rest breaks before becoming fatigued on long trip
	• Poor road surface	• Reduce speed if road surface is gravel or in poor condition • University road problems, call FMD Work Control (4496)
• Involved in collision • Stop to assist others involved in collision or otherwise requiring assistance	• Impact within, ejection from or crushing by vehicle in collision • Exposure to blood or body fluids from injured passengers • Explosion or fire risk from wrecked vehicles • Sharp glass and metal	• Obey all traffic laws • Wear seatbelts and ensure all passengers are wearing seatbelts properly http://www.sgi.sk.ca/individuals/safety/seatbelts/index.html • Drive defensively • Vehicle should be equipped with a first aid kit http://www.fleetsafe.org/
• Hands free devices • Operation of vehicle controls or features • Eating while driving • Conversing or adjusting radio while driving	• Distraction leading to collision • Unfamiliarity with vehicle controls, proper operation and features	• Do not use cellular phones while driving, pull over and stop or use hands-free device • Avoid distractions when driving • Read the owner's manual and be familiar with proper operation of the vehicle
• Refueling vehicle	• Fire or explosion • Exposure to gasoline fumes	• Use caution when refueling: • Turn off engine • Do not smoke when refueling • Do not reenter vehicle when refueling
• Changing flat tire	• Vehicle crushing operator • High forces, awkward posture • High traffic area	• Get assistance if not able to safely change tire independently • Be familiar with your vehicle's tire changing equipment and procedures