|  |
| --- |
| UTS SAFE WORK METHOD statement (SWMS) |

|  |  |
| --- | --- |
| 1. **FACULTY/SUBJECT** | |
| Faculty/Subject title | 41013 Industrial Robotics |
| Subject supervisor/coordinator | Gavin Paul |
| SWMS prepared by | Jared Anderson |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **WORK ACTIVITY DESCRIPTION** | | | | | | |
| Describe the work activity E.g. Operating, Handling, Using.. Include names of hazardous equipment, substances or materials used,  and any quantities and concentrations of substance(s) or reaction products. | Picking and placing objects (not real objects) using a UR3 robot via controls from personal laptop through a raspberry pi. There should not be any manual handling of the robot. | | | | | |
| 1. HAZARDS: Choose those hazard types that will need to have control measures in Section 4 | | | | | | |
| **Work Environment**   * Working in Remote Locations * Working Outdoors/fieldwork * Clinical/Industrial setting * Poor ventilation/Air quality * Temperature extremes * Working at Height * Slip/Trip/Fall hazards | | **Plant**   * Noise * Vibration * Working with compressed air * Lifts Hoists or Cranes * Moving parts (Crushing,friction, cut, stab, shear hazards) * Pressure Vessels or Boilers | | **Chemical**   * Hazardous Chemicals use * Skin/eye irritant * Sensitiser * Mutagen * Carcinogen * Toxic to reproduction * Aquatic toxicity * Toxic * Corrosive * Dangerous when wet | | **Ergonomic/Manual Handling**   * Repetitive or awkward movements * Lifting heavy objects * Over reaching * Working above shoulder or below knee height * Poor workstation set up |
| **Electrical**   * Plug in equipment * High voltage * Exposed wiring * Exposed conductors | | **Radiation**   * Ionising Radiation * Non-ionising radiation (Lasers, Microwaves, Ultraviolet light) | | **Biological**   * Sharps/Needles * Cytotoxins * Pathogens/infectious materials * Infectious materials * Communicable diseases * Animal/insects * Work with fungi/bact/viruses | | **Psychosocial**   * Aggressive or violent clients/students * Working in isolation * Working with timeframes * Staffing issues |
| 1. **CONTROLS MEASURES: Choose those that apply for hazards identified** | | | | | | |
| **Eliminate/Isolate/Substitute / Engineering Controls**   * Remove hazard * Restrict access * Redesign equipment * Guarding / Barriers / Fume Cupboard / exhaust * Biosafety cabinet * Use safer materials/substances * Ventilation * Regular maintenance of equipment * Redesign of workspace / workflow | | | **Admin specific: Licenses/permits Work Methods**   * Training Information or Instruction * Licensing or certification of operators * Test and tag electrical equipment * Restricted access * Regular breaks * Task rotation * Work in pairs * Document Chemical risk assessment * Ladder / Sling register | | **Emergency Response Systems**   * First aid kit * Chemical spill kit * Safety shower * Eye wash station * Emergency Stop button * Remote Communication Mechanism | |
| **Other controls not listed**  **SWMS**  **SWI** | | | | | | |
| 1. **PPE REQUIRED (Tick those that apply)** | | | | | | |
| **☐** http://www.orr.uts.edu.au/images/pictograms/protection/hand.pnghttp://www.orr.uts.edu.au/images/pictograms/protection/face.pnghttp://www.orr.uts.edu.au/images/pictograms/protection/eye.pnghttp://www.orr.uts.edu.au/images/pictograms/protection/hearing.pnghttp://www.orr.uts.edu.au/images/pictograms/protection/foot.pnghttp://www.orr.uts.edu.au/images/pictograms/protection/ppe.png | | | | | | |
|  | | | | | | |
| http://www.orr.uts.edu.au/images/pictograms/protection/respiratory.pnghttp://www.orr.uts.edu.au/images/pictograms/protection/head.pnghttp://www.orr.uts.edu.au/images/pictograms/protection/hair.png | | | | | | |
|  | | | | | | |
| 1. **EMERGENCY EQUIPMENT** | | | | | | |
| http://www.orr.uts.edu.au/images/pictograms/equipment/eyewash.pnghttp://www.orr.uts.edu.au/images/pictograms/equipment/spill.pnghttp://www.orr.uts.edu.au/images/pictograms/equipment/shower.png | | | | | | |
|  | | | | | | |

|  |
| --- |
| 1. **work activity steps** |
| **before you start:**   * Clear workspace/environment for any trip hazards, most notably liquid, cables, bags, or other items on the floor * Check clothing is secure and appropriate. * Check for appropriate fire safety devices such as fire extinguishers in case of electrical issue.     **steps in work activity:**   1. Have the robot held securely in position (should be attached to a table) 2. Ensure workspace/table is clear of any non-intended items/people. 3. Check code is safe to run with lab supervisor. 4. Connect computer to the robot. 5. Conduct a small test movement procedure to ensure no faults/inconsistencies. 6. Begin robot movement. 7. Ensure robot movement is finished/stopped. 8. Exit out of the run program. 9. Shutdown the robot 10. Disconnect from the robot. 11. Clear up the work area and place the robot back into its normal location.   **emergency procedures:**   * Press emergency button. * Notify security or dial 6 using the UTS internal phone. * In case of electrical fire, use the available fire extinguishers (CO2 or dry powder) to extinguish the blaze.   **training required:**   * Lab Induction course |

|  |  |  |
| --- | --- | --- |
| 1. **sign off** | | |
| **prepared by:**  **NAME: Jared Anderson** | **Lab Supervisor**  **Name: Michael Lee** | **Date: 13.10.2023**  **Review Date:** |