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| **togbl5kfk11uz** | **Activity Risk Assessment** | | | | | | | | | | |
| *This form is to be completed in consultation with the demonstrator and/or staff member prior to any laboratory/project activity* | | | | | | | | | | |
| **Information of Activity** | | | | | | | | | | | |
| **Description of Activity:** Design and Build a gripper, as part of the MANU2451 (Advanced Mechatronics Systems Design) course. | | | | | | | | | | | |
| **Location:** 056.02.030 | | | **Identified by:** | | | | | | **Date:** | | |
| **Identified Hazard / Aspect:**   1. **Generated dust from drilling, sawing and other mechanical activities – Respiratory issues or suffocation. Risk: D x 2 = L.** 2. **Electrical risks: Short circuit – Fire or electrocution. Risk: C x 3 = H.** 3. **Electrical risks: Overloading of electrical circuit – Fire. Risk: C x 3 = H.** 4. **Electrical risks: Damaged of poorly maintained electrical leads, switches, cables – Fire or electrocution. Risk: C x 3 = H.** 5. **Electrical risk: Exposed power or lack of isolation – Electrocution. Risk: C x 3 = H.** 6. **Electrical risk: Electrical items not tested and tagged – Fire or electrocution. Risk: D x 3 = M.** 7. **Uneven or slippery floor – Injury. Risk: D x 2 = L.** 8. **Poor housekeeping, obstruction in work space – Injury. Risk: D x 2 = L.** 9. **Mechanical risk: Hair, clothing, gloves, jewellery, limbs, rags or other materials become entangled with moving parts – Injury. Risk: C x 3 = H.** 10. **Mechanical risk: Material falling off equipment or work pieces being ejected – Injury. Risk: C x 3 = H.** 11. **Mechanical risk: Coming into contact with sharp or flying objects – Injury. Risk: C x 3 = H.** 12. **Mechanical risk: Mobility of equipment e.g. uncontrolled robot – Injury. Risk: D x 2 = L.** | | | | | | | | | | | |
| **Risk Analysis Matrix** | | | | **Level of risk identified (e.g. Probability C. x Consequence 3.= H):** | | | | | | |  |
|  | | **Consequences** | | | | | | | | | |
| **Probability** | | 1.Insignificant | | | 2.Minor | 3.Moderate | | 4.Major | | 5.Catastrophic | |
| A. Almost certain | | H | | | H | E | | E | | E | |
| B. Likely | | M | | | H | H | | E | | E | |
| C. Moderate | | L | | | M | H | | E | | E | |
| D. Unlikely | | L | | | L | M | | H | | E | |
| E. Rare | | L | | | L | M | | H | | H | |
| **Matrix Legend:**  **E =** extreme/significant risk; immediate action required; must be managed by senior management with a detailed plan.  **H =** high risk, senior management attention needed, detailed research and management planning at senior levels.  **M =** moderate risk, management responsibility must be specified; manage by specific monitoring or response procedures.  **L =** low risk, manage by routine procedures; unlikely to need specific allocation of resources. | | | | | | | | | | | |
| **Risk Control - detail actions to be taken to reduce the level of risk** | | | | | | | | | | | |
| 1. **Wear masks. Risk: E x 1 = L.** 2. **Check with academic or technical staffs before powering your system. Install fuse in your circuit. Risk: D x 2 = L.** 3. **Do not piggy-back any extension wires. Install fuse in your circuit. Risk: D x 2 = L.** 4. **Use only RMIT approved equipment, no own equipment. allowed. Risk: D x 2 = L.** 5. **Check wires properly for damages or exposure before using. Risk: D x 2 = L.** 6. **Use only RMIT approved equipment, no own equipment. allowed. Risk: D x 2 = L.** 7. **Proper housekeeping and clean up floor immediately if wet. Risk: E x 2 = L.** 8. **Proper housekeeping. Risk: E x 2 = L.** 9. **No loose clothing, tie up hair before using rotary or moving equipment. Risk: D x 2 = L.** 10. **Wear personal protective equipment. Risk: D x 2 = L.** 11. **Wear personal protective equipment. Risk: D x 2 = L.** 12. **Wear personal protective equipment. Risk: D x 2 = L.** | | | | | | | **Actions**  When determining actions refer to Hierarchy of Risk Controls | | | | |
| **Hierarchy of Risk Controls** | | | | |
| **1. Elimination**  No longer carry out the activity | | | | |
| **2. Substitution**  Use less hazardous alternatives | | | | |
| **3. Isolation**  Separate the operator from the risk | | | | |
| **4. Engineering Controls**  Redesign plant and equipment | | | | |
| **5. Administrative Controls**  e.g. Operating procedures | | | | |
| **6. Personal Protective Equipment (PPE)**  Selection of appropriate equipment | | | | |
| **Subsequent Level of Risk (recalculate the level of risk with controls in place):** See Risk Control. | | | | | | | | | | | |

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| Person assessing the risk (Name): | Signature: | Date: |
| Authorised by (Name)*:* Chow Yin Lai | Signature: Chow Yin Lai | Date: 06.03.2018 |
| **Declaration: All action items will be completed and procedures followed** | | |
| Declared by (Name): | Signature: | Date: |
| Comments: | | |