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| **SAFE WORK INSTRUCTION** | |
| **Laser Cutter Activities with The Edge** | |
| Activity Authorisation / Supervision | Use of The Edge’s Laser cutter is only permitted under supervision by expressly authorized staff members and or contractors. |
| Description of the Activity | The Edge delivers a range of entry-level Laser Cutting activities to participants. These include practical, hands-on instruction in:   * Using measuring tools, digital design and CAD applications to create designs for cutting/ etching on the Laser. * Preparing Digital design and CAD files for laser cutting etching. * Safe and efficient use of the laser. * Monitoring, finishing and refining laser cutting etching jobs. |
| Tools, Equipment, Materials and Consumables | 1. Digital Media Lab or Fabrication Lab computers (iMac, MacPro or MacBook/ PC laptops provided by The Edge) 2. Android tablets/ iOS iPad and mobile devices provided by The Edge 3. Private laptop, tablet or mobile device. The use of private laptops and mobile devises is subject to the *Bring Your Own Device guidelines*. 4. Projectors / display devices provided by The Edge. 5. Trotech Rayjet 300 CO2 Laser Cutter 6. Allen Keys 7. Stock materials to be cut/ etched in the Laser. 8. Adhesives used in the assembly of projects. |
| Interim Safety Assessment (ISA) | An Interim Safety Assessment (ISA) must be completed and approved by a Program Coordinator before commencement of an activity when:   1. The activity will not be facilitated by an SLQ staff member or inducted contractor. 2. The activity will not be conducted in and around The Edge or on SLQ premises *(see SWI for Activities to be Conducted Off-site or in a Public Space).* 3. The activity requires the use of tools, equipment, materials or processes not detailed in Section 2 or 3. |
| Hazards associated with equipment /machinery/technique /process | Most activities in this skill area occupy a low risk profile with the majority of activities taking place in controlled environment of The Edge’s Basement Fabrication Lab.  The general risks associated with these standard activities include:   1. Trip, slip falls 2. Electric shock 3. Ergonomic & screen based work 4. Personal safety and 5. Communicable disease 6. Exposure to environmental   Workers and participants are also exposed to other risks as a greater range of specific tools, processes and materials that are employed in Laser Cutting Activities. Risk of injury from the wider range of tools, processes and materials listed in Section 3 include:   1. The range of hazards associated with stock materials, debris and or the machine catching fire. 2. Exposure to hazardous materials released by the use of the Laser cutter. 3. Exposure to hazardous materials released in the finishing and assembly of projects 4. Cuts, abrasions and small crushing injuries from knives, pliers, cutters, screwdrivers and or Dremel used in the finishing and assembly of projects. |
| Before Starting | 1. Check workspace for general tidiness. 2. Ensure all required equipment and materials are in the workspace and ready for use in the session. 3. Where possible re-route cables trailing across walkways. Use cable trays or gaff were unavoidable. 4. Consumption of food and drink in activity spaces is to be avoided where possible. Clear any spills immediately. 5. Encourage ergonomic work practices and encourage regular breaks. 6. Encourage good manual handling practices and provide appropriate equipment (trolleys, truck & straps for securing loads) to assist with larger loads. 7. Address interpersonal difficulties according the *Patron Responsible Behavior Policy* and seek assistance from VSOs or SLQ staff member on duty. 8. *VSO Daily Procedures* and the *Fabrication Lab Daily Procedures* include regular wiping down of all tables, keyboards, mice and computer screens with antibacterial wipes. However if you have particular concerns do not hesitate to collect wipes from reception and rewipe these surfaces. 9. **Ensure all powered (240v+ corded) tools/ devices to be used in a workshop have a current tag test sticker.** 10. **Ensure safety / fire fighting equipment is in place and ready for use.** 11. **Ensure materials being cut/etched are from the approved list of materials or have been approved via procedure outlined in the** *“New Material Testing Guide”* 12. **Conduct preflight checks of Laser machine**      1. **Conduct a visual inspection of the cleanliness of the machine and consult machine log to ensure maintenance is up to date***.*     2. **Ensure Hot work Permit is in place**     3. **Ensure Honeycomb properly seated on bed**     4. **Ensure that the focal length and all laser settings are being checked by an authorized Staff member or contractor before each new job.** |
| Personal protective equipment (PPE) to be used | 1. Appropriate clothing and foot-ware should be worn at all times during this activity. 2. Hearing and Eye protection will be required for the use of some tools and materials listed in Section 3. (Dremel ) |
| Emergency procedures | 1. If the machine begins making unusual noises or malfunctions pause the job, notify the nearest SLQ staff member on duty and await instruction. 2. In the event that debris, stock material or the machine catches fire, abort job by lifiing the lid and notify the nearest SLQ staff member on duty and await instruction. 3. First aid kits are located at Reception, the Back of Lab 4, The Edge staff office, SLQ Reception and the Cultural Centre Security Office. 4. The Cultural Centre Security office phone number is 07 3840 7216. 5. All incidents, **including near misses**, are to be reported to VSO or staff member on duty. |
| Step by step procedures for task | 1. Only use tools for the job they have been designed for. (Eg using a screwdriver as a leaver, chisel or awl can cause injury.) 2. Cutting tools (scissors, knives, dremel etc) will be pointed away from the body when in use and pointed down when being transported around the space. 3. Where possible ensure work is secured positively to the workbench before applying any force in the use of any of the following tools - screwdrivers, pliers, knives, dremel. 4. Wash hands after soldering or handling electronic components. 5. Staff and Participants are not to introduce electrical/ electronic equipment or devices to an activity space that has not been deemed safe prior to the commencement of the activity. 6. **Members of the public (participants) may use the Laser cutter after successfully completing a Laser Induction and under the supervision SLQ staff and or contractors expressly authorized to supervise Participants.** 7. **The Laser is to be monitored at all times whilst in operation. Laser jobs are to be paused while unmonitored.** 8. **All Jobs are entered into the machine log** 9. **The Laser is to be checked for regularly for debris and cleanliness throughout a session as some materials require more frequent cleaning than others.** |
| Clean-up procedures | 1. Participant benches will be cleaned down of any offcuts and all tools are to be returned to their place in the storeroom. 2. Debris is to be brushed out and the machine cleaned at the end of each session. |
| Waste disposal procedures | NA |
| Record keeping | NA |
| Prepared by: Date: | Mick Byrne, Program Officer, The Edge  30 October 2015 |
| Approved by, Date: |  |
| Due for review |  |
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