|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Tiertime Cetus Mk3 3D printer Safe Operating Process | | | | | | | |
| This Safe Operating Process (SOP) is to be used in conjunction with any legislation, operating manuals, Australian or International Standards or task relevant training. | | | | | | | |
| **Description of the Work:** | | | | | | | |
| Use of the Tiertime Cetus Mk3 3D printer to complete 3D printing projects | | | | | | | |
| **Personal Protective Equipment Required:** *remove any which are not relevant* | | | | | | | |
|  | Safety glasses may be required for some operations. | | |  | | Long and loose hair must be contained. | |
|  | Safety guard must be used at all times. | | |  | | Safety gloves may be required for some operations. | |
| **Potential Hazards** | | | | | | |
| * Fumes and particles | | | | | * Cuts when removing printed objects from the print board | |
| * Burns from hot surfaces - especially the print head nozzle | | | | | * Particles in eyes when trimming projects | |
| * Pinching from the print fan | | | | | * Water leaks and electricity. Do not use near any wet surfaces | |
| **Pre-Operational Safety Checks:** | | | | | | |
| * Make sure you have completed the 3D printer induction. * Check the Tiertime Cetus Mk3 is free from of obstructions that may prevent the machine from feeding material smoothly * Ensure the print board is correctly locked to the print table * Check that no maintenance tools are present in the UpBox * Ensure the spool and filament is not an entanglement risk * Check filament is loaded per instructions? Make sure you are familiar with how to change filament before doing so or ask a MakerSpace technician to assist * Ensure PLA filament is being used. We only support the use of PLA filament in the Library Makerspace. ABS filament is not to be used in the Library MakerSpace * Report any suspect equipment to your MakerSpace technician * Ensure you have the correct PPE - protective glasses, gloves. | | | | | | |
| **Operational Safety Checks:** | | | | | | |
| * Turn on the Tiertime * Ensure you have elected the correct filament type setting - PLA setting * Do not move the Tiertime Cetus Mk3 during operations * Do not initiate movement of the print head whilst any foreign body, clothing, hair, fingers) are close to or entangled in the machine * Never touch the nozzle, print head or print bed during operations. This could result in burns or other personal injuries * Never attempt to remove the nozzle from the print head * Never touch print head, print board or printed parts immediately after print operations as they will be HOT Especially the print head | | | | | | |
| **Post-Operational Safety Checks:** | | | | | | |
| * Turn off the printer before placing your hands in the printer and before removing parts * Take care when removing material from the 3D printer as the nozzle can be extremely hot - you will need to wear gloves to remove print from print board. * Wear safety glasses and gloves when removing support material and trimming objects * Clear workspaces of any residue and debris and place waste in the appropriate bin | | | | | | |
| **Housekeeping:** | | | | | | |
| * Return PPE equipment to storage containers next to the 3D Printers * Clear workspaces of any residue and debris and place waste in the appropriate bin * Inform MakerSpace technicians of any problems or faults | | | | | | |
| **Maintenance & Cleaning** | | | | | | |
| Daily   * Clear workspaces of any residue and debris and place waste in the appropriate bin * Clean print boards   Weekly   * Clean nozzle | | | | | | |
| **Assessed by:** | | Charles Barnett | | | | |
| **Date of Assessment:** | | | **18 July 2018** | | | |