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| Tiertime UP300 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:** |
| Operate the Tiertime UP300 printer in the Library Makerspace to complete 3D printing projects |
| **Personal Protective Equipment Required:** *remove any which are not relevant* |
|  | Safety glasses may be required for some operations |  | Safety gloves will be required when taking print models off the platform. |
|  | Door and lid of 3D printer should be closed when printer is in use |  | Long and loose hair must be contained. |
| **Potential Hazards** |
| * Fumes and particles
 | * Cuts when removing printed objects from the print board
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| * Burns from hot surfaces - especially the print nozzle and printhead
 | * Particles in eyes when trimming projects
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| * Pinching from the print fan
 | * Water leaks and electricity. Do not use near any wet surfaces
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| **Pre-Operational Safety Checks:** |
| * Make sure you have completed the 3D printer induction.
* Open the UpStudio software. Make sure the “Sleep” setting is selected so that the machine will turn itself off after the print job is completed.
* Print jobs must be completed before 4pm on the same day.
* Check the Up300 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 Makers. 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
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| **Operational Safety Checks:** |
| * Turn on the Up300 Printer.
* Ensure to initialise the printer selected via the UpStudio software.
* Ensure you have elected the correct filament type setting - PLA setting
* Close the Up300 door and lid during operations
* Do not initiate movement of the print head whilst any foreign body including clothing, hair, fingers) is close to or entangled in the machine
* Never touch the print nozzle, printhead and print bed during operations. This could result in burns or other personal injuries
* Do not attempt to open the door whilst printer is in operation.
* Never attempt to remove the nozzle from the print head
* Never touch print head, print board and printed parts immediately after print operations as they will be HOT Especially the print head
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| **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 be required to wear gloves
* 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
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| **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
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| **Maintenance & Cleaning** |
| Daily* Clear workspaces of any residue and debris and place waste in the appropriate bin
* Clean print boards

Weekly* Clean nozzle

Other* Replace filter every 6 months or 300 hours of printing
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| **Assessed by:** | Charles Barnett |
| **Date of Assessment:** | **18 July 2018** |