The Edge CNC Induction

**Activity 1 - Key Safety Tips for Fabrication Lab**

Draw a line to the safety tip with its explanation

|  |  |
| --- | --- |
| Wear the right safety gear | It’s there for your protection |
| Clean up as you go | Accidents happen in untidy places |
| Correctly use the right tool for the job | Most injuries come from misusing tools |
| Always wear appropriate covered footwear | They protect your feet and prevent slipping |
| No kids under 12. Sorry | There is hazardous equipment and substances used in the Fabrication Lab |
|  Ask questions if you have any doubts | It’s easy to ask and you could prevent an injury |

**Activity 2**

**Identify CNC components**



1. Vacuum bed
2. Travelling Steel Gantry contains x axis
3. Machine Head contains y and z axis
4. NOT APPLICABLE
5. Location of cutting spindles
6. Operators Console
7. NOT APPLICABLE
8. Inverter enclosure- High Voltage
9. A2MC Controller Enclosure-High Voltage
10. Air Filter
11. Power Box Master ON/OFF- High Voltage
12. Machine Frame
13. NOT APPLICABLE
14. Air Supply for Vacuum pressure gauges
15. Not applicable
16. Emergency stop

**Activity 3**

Name these parts to check before starting



1-Threaded Spindle- check spindle for corrosion/rust and clean with steel wool

2-Waste board- check over waste board for flatness . Use scour pad to clean

3-x and y axis Gantry rails- check for dust and debris



|  |  |  |  |
| --- | --- | --- | --- |
| 1-Collet wrenches | 2-Collet | 3-Collet Nut | 4-Routing Bit |

**Activity 4**

We’ve identified the key stages in the CNC process. Each stage is listed below. Put each step in the correct order, by placing a number in the corresponding circle.

Preparing Your design

1. Design your model in and save as .dxf(can also import .ai and some CAD file types)

2. Import to Enroute

3.Set up orientation and Create a tool path

4 Send file to output and save

5 Open Multicam app manager and send file to machine

Preparing the CNC

1. Remove waste board
2. Turn on compressor to blow away dust
3. Turn on CNC machine to run through its startup checks
4. Open file on the CNC control
5. Install and qualify required tool
6. Load material onto bed and clamp accordingly(Vacuum, screw)
7. Turn on dust extractor
8. Press Start and observe until cutting is complete

**Safety**

Do’s and Don’ts when using CNC

Place these safety tips in the appropriate column

|  |  |
| --- | --- |
| **Do** | **Don’ts** |
| Check tooling before use | Lean on Machine when its operating |
| Wear PPE when operating | Leave machine unattended |
| Check over your tool paths of your design before cutting | Overtighten tooling |
|  | Lift material by yourself |