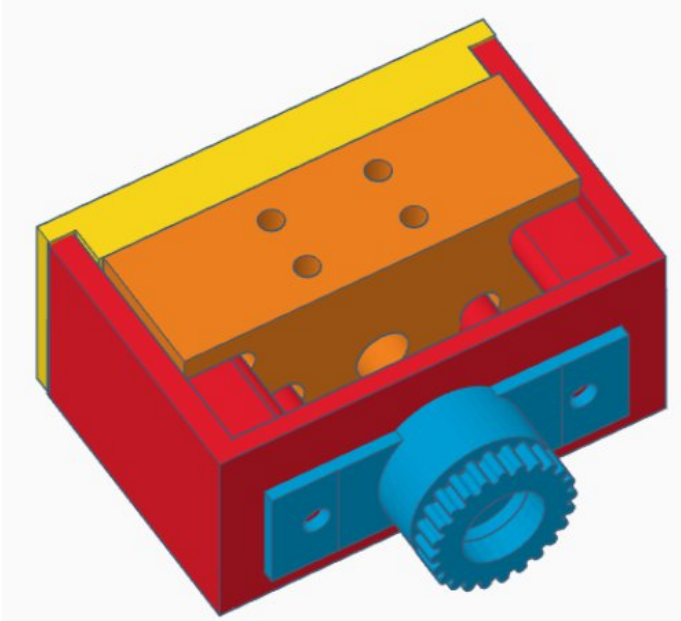
Cheap Lab

Low-cost laboratories through 3D printing innovation

Bangkok University Low Cost 3D printed laboratory

Linear moving stage (short distance)



BUCROCCS – Bangkok University

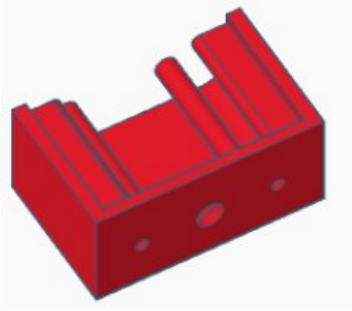
2025

Parts....3
Parts to print....3
Extra parts needed....3
Assembling the stage....4
Normal webcam operation....4
Turning the webcam to a microscope....5
Digital magnification....6
Mounting system....6
Mounting assembly....8
Microscope mounting design....8
Webcam control board mounting....10
Lens module adapter....11
Mounting camera to the rack....12
Mounting microscope to a base....13

Parts

Parts to print

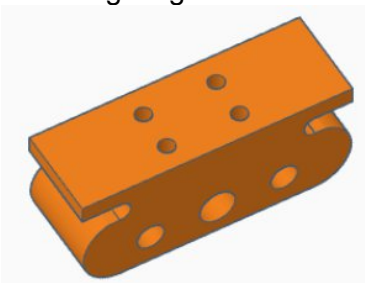
1. Main base



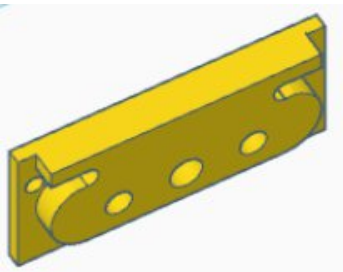
2. Rotating knob



3. Sliding stage



4. Back side



Extra parts needed

1. 5 mm screw
2. 3 mm screw
3. 5 mm spring

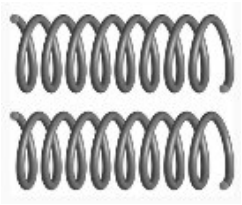
1.



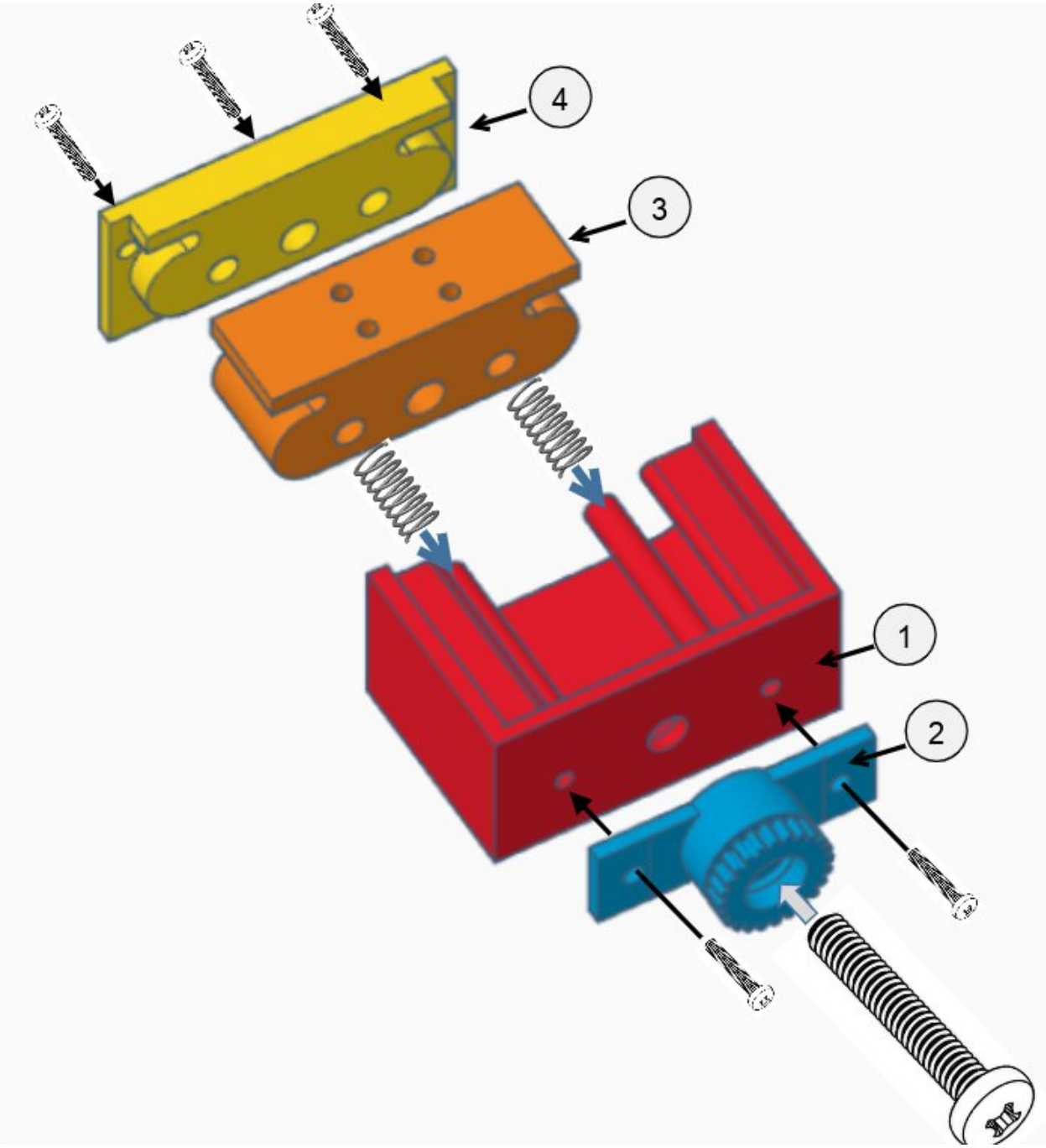
2.



3.



Assembling the stage



1. Mount the 5 mm screw into the rotating knob.
2. Mount the rotating knob with the 5 mm screw into the main base using two 3mm screws
3. Place two strings onto the two posts in the main base.
4. Place a nut in the hexagonal well in the sliding part.
5. Slide the sliding part into the main base with springs by rotating the knob to ensure that the 5 mm screw to move the sliding part via the nut fixed to it.
6. Once the sliding part is completely inside the main base, push the back side and ensure that the 5 mm screw and thew two posts go through the associated holes.
7. Mount the back side to the main base using three 3 mm screws.