Fusion 3 EDGE

A introductory tutorial to using the Fusion 3 printer

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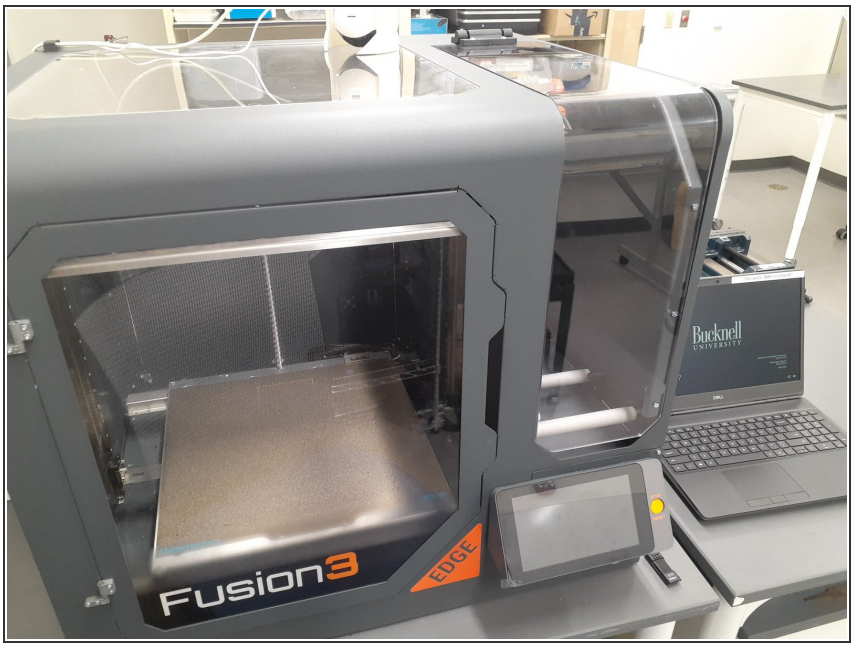
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INTRODUCTION

This guide is an introductory guide into using the Fusion3 EDGE printer located in ACET 237

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Step 1 — Setup



- This tutorial is set up to be an introductory tutorial for use of the Fusion3 Edge printer
- Turn on the Fusion3 EDGE
  - Power switch can be found beneath the LCD screen.
- Verify the build plate is clean and clear of any previous prints.
- Verify or load the correct filament into the printer.
  - A tutorial going through the different types of filament can be found here.
- Turn on ventilation if required due to the filament type.

Step 2 — Filament





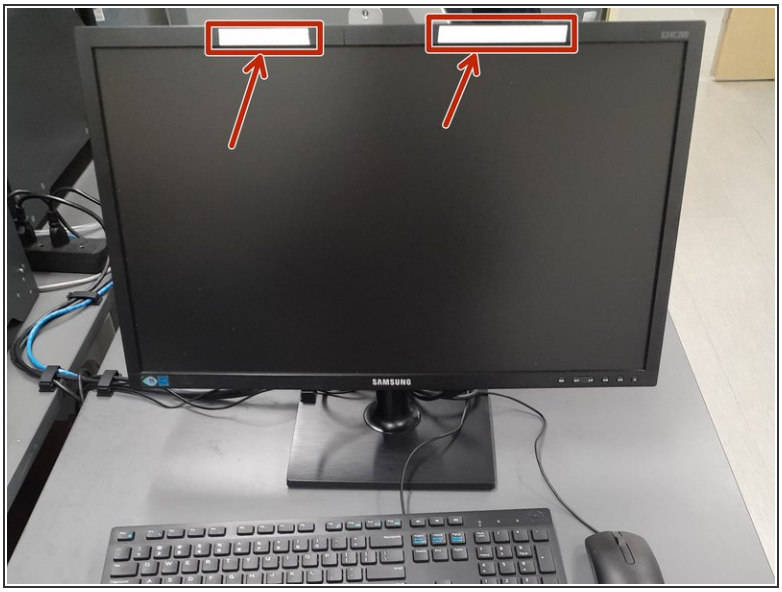
- Verify or load the correct filament type into the printer.
  - A tutorial going through the different types of filaments can be found here.
  - A tutorial for changing filaments can be found here.
- If the filament required proper ventilation, turn on the snorkel. The switch is found in the back of the room by the band saw as shown in the second image.

Step 3 — Build Plate



- Verify or install the correct build plate that corresponds to the type of filament being printed.
  - Build plates are found below the Fusion3 F410 printer, under the table.
  - For PLA, PETG, TPU and others, use the black matte Buildtak build plate.
  - For ABS, use the yellow PEI build plate.
  - For PC, use glass with a glue stick applied to the surface.

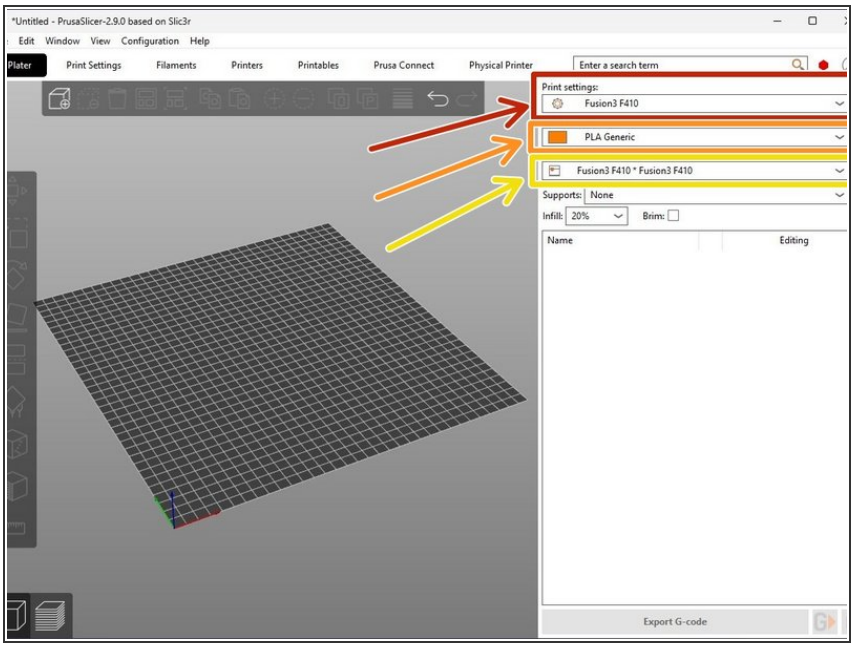
Step 4 — Login





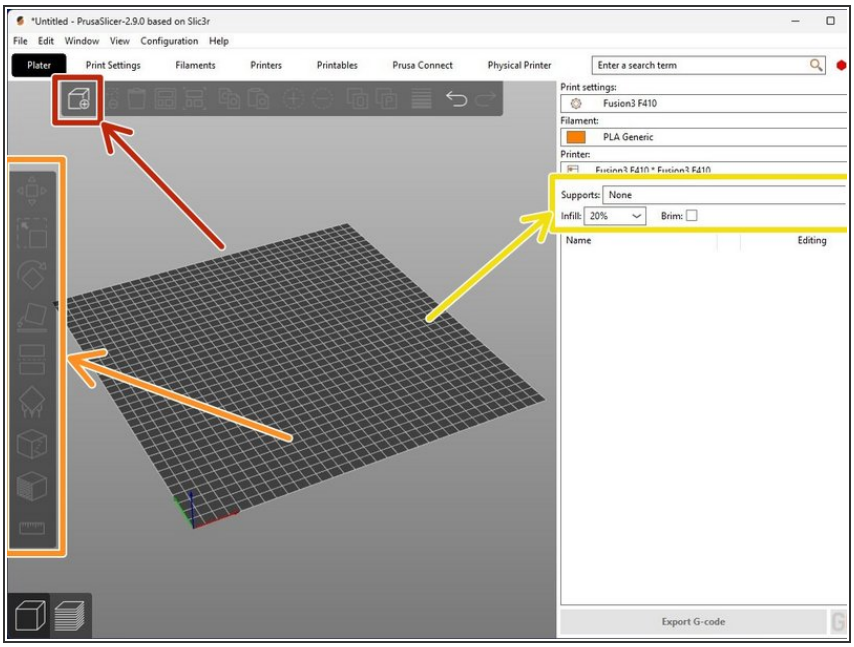
- Log in to the computer near the printer using the credentials at the top of the screen.
- Open the slicer software which is PrusaSlicer.
  - The PrusaSlicer Logo is shown in the second image.
  - Documentation for PrusaSlicer can be found here.

Step 5 — Slicer Setup



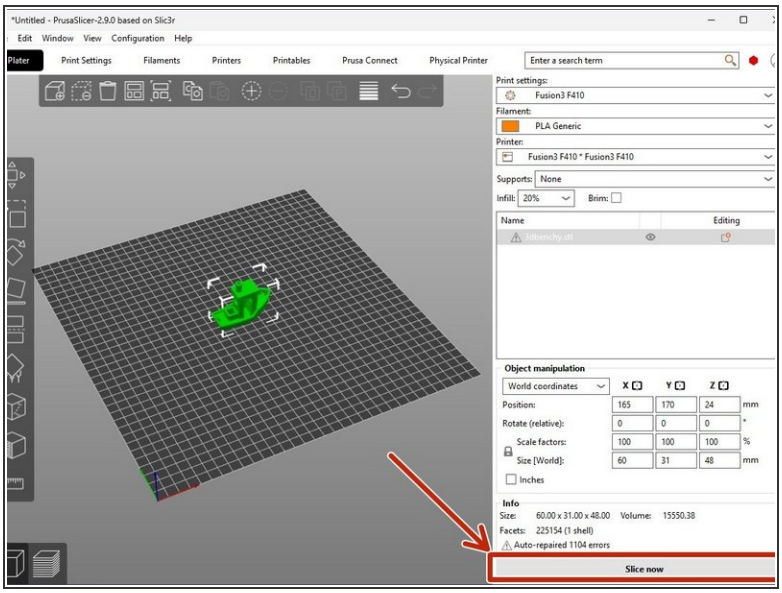
- Verify "Fusion3 EDGE" is selected under "Print settings".
- Select the correct filament type.
  - A tutorial going through commonly used filament types is found here.
- Within the third text box under "Physical Printers" select "Fusion3 EDGE".

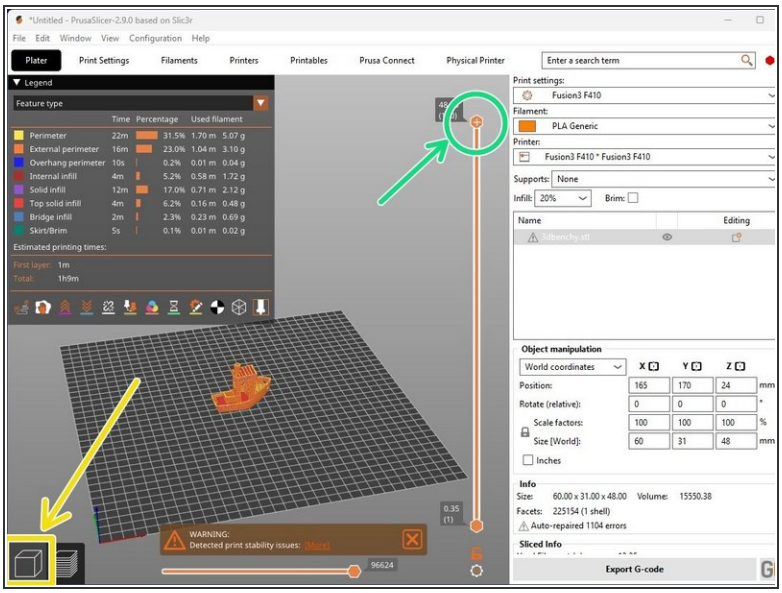
Step 6 — File Upload and Manipulation



- User interface for PrusaSlicer can be found here as needed.
- To upload a STL file, select the box as shown in the image.
- Use the object manipulation tools for positioning, scaling, orientation and so forth as discussed in the Object Manipulation tutorial.
  - ⓘ Placing an object perfectly flat on a build plate is necessary to avoid generating support material or printing difficult angles. More information can be found here.
- Modify the support material options that can be found below the printer selection.
- For further information on support material and why it is needed, refer to the Support Material tutorial.

Step 7 — Slice



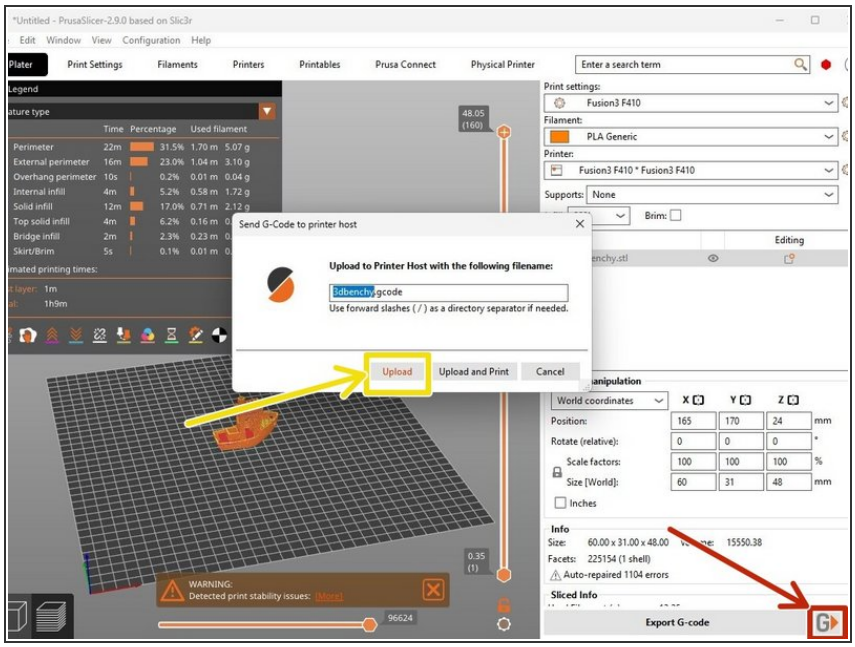


- Once you are satisfied with the orientation of the part, select the 'Slice Now' button on the bottom right of the window.

ⓘ After slicing is complete, PrusaSlicer will display a preview of the print as demonstrated in the second image.

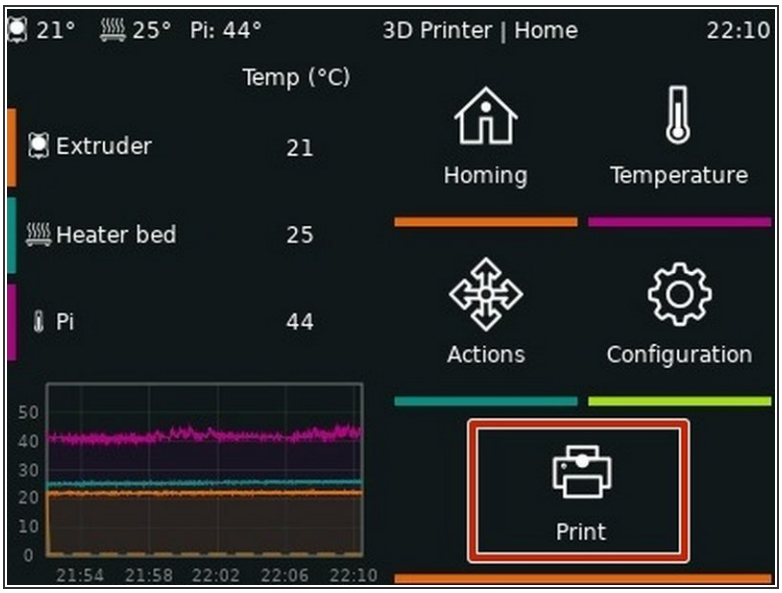
- Verify that the part on the screen is what was intended.
  - The layer cross-section can be viewed by clicking and dragging the orange sliders on the right side of the window as shown.
  - If further changes are needed, select the 3D box icon on the bottom left of the screen.

Step 8 — Upload to Printer



- Once the file looks ready to print, select the "G" button in the bottom right of the window.
- Rename the file to something easily recognizable.
- Select "Upload" to transfer the file to the printer automatically.

Step 9 — Start Print





- On the printer select **Print**.
- Locate the uploaded file.
  - The date and refresh buttons may help.
- Select **Print**.
- After verifying the selected file is correct, select **Print** again to start the print.

⚠ Wait until the first layer prints correctly before leaving.

Step 10 — Conclusion



⚠ This printer requires periodic monitoring.

- The user is expected to check on the printer every two hours.
  - If this is not possible, notify the Lab Director for further instructions.
  - If this is not done, access to the Fab Lab may be revoked.
- Further questions or comments can be directed to the lab director.